

# NAVAL POSTGRADUATE SCHOOL

## Monterey, California



## THESIS

AN ANALYSIS OF THE MILITARY FAMILY HOUSING  
CONSTRUCTION CONTRACTOR SUPPLIER BASE AT  
MCB CAMP PENDLETON AND A REPORT ON HOW AN  
UNDERSTANDING OF THESE TRENDS MAY IMPROVE  
THE ACQUISITION STRATEGY FOR THE DEPARTMENT  
OF DEFENSE

by

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MAY IMPROVE THE ACQUISITION STRATEGY FOR THE  
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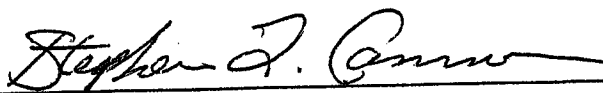
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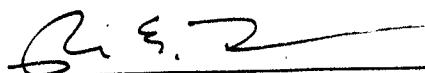
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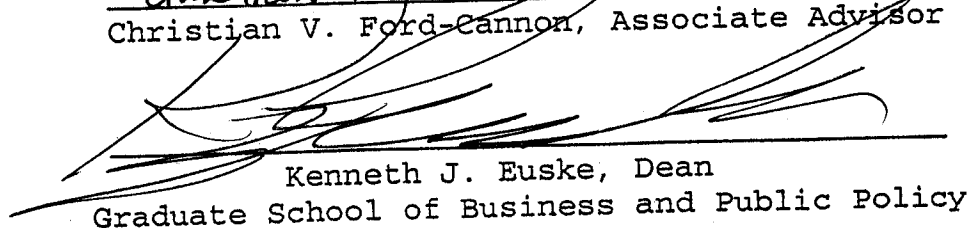
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## **ABSTRACT**

The study investigates Public Private Ventures as a new, evolving approach to the Marine Corps' housing needs at Marine Corps Base (MCB) Camp Pendleton. The study examined the emerging transformation of housing construction and property management responsibilities and risks from the Government to the private sector developer. Specifically, the study sought to answer two primary research questions:

- How can the Navy improve construction management?
- What are the differences between Military Construction and Public Private Venture business agreements for construction management?

The study surveyed Public Private Venture developers and housing construction contractors' attitudes towards the Navy's recent trend in the design, construction, and maintenance of Marine Corps military family housing.

The researcher's major conclusion concerns the uniqueness of Public Private Venture and Military Construction contract management. Each approach requires different skills, operates at different speeds, and requires separate functional teams. Successful contractors appear to form Limited Liability Corporations and adopt strategies consistent with that conclusion.

The study's major recommendation favors Government maintenance of central housing operations with both Navy and Marine Corps assets organized at the headquarters of the Southwest Division. This would provide the functional



expertise and knowledge experts to work on real-time housing issues.

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## **I. INTRODUCTION**

### **A. BACKGROUND**

The Department of Defense (DoD) military family housing construction supplier base and its relationship with the Federal Government has undergone significant changes since beginning over fifty years ago. Starting during the 1950's, military family housing contractors began building housing units at Marine Corps Base (MCB), Camp Pendleton, California to meet the needs of base personnel. As the mission of the base increased along with the number of troops and their dependents, the supply of quality on-base housing could not sustain the demand of the growing Marine Corps requirements. The development of new housing and the renovation of substandard, existing housing continued with various levels of military and private funding.

However, uncertainty and inconsistency of the funding flow of Military Construction (MILCON) and Military Housing Improvement Project (MHIP) budget, along with the push from recent Quality of Life (QoL) initiatives to correct backlogged maintenance issues caused the Government to consider new cost-effective approaches to resolve performance, design, quality control, and contract funding issues. These recent changes resulted from initiatives in reinventing Government, acquisition reform, design-build management, acquisition reform, Base Realignment and Closures (BRACs), and changes in Federal laws that provide incentives to contractors to partner with the Government in the military family housing construction process.

These recent changes have increased pressures on the military family housing market at MCB, Camp Pendleton.

First, the closing of several military family installations in California, including El Toro, required consolidation of resources at Camp Pendleton.

Second, the location of Camp Pendleton (along the coast of North San Diego County) decreases the likelihood of service members finding affordable off-base housing within the local commuting area.

Third, the shortage of undeveloped land off-base combined with strictly enforced environmental regulations on-base decreases the availability of viable new housing sites to meet the Marines needs.

Fourth, the local (San Diego North County, Riverside County) spiraling demand for housing in the late 1990's to present, attracted private developers to the private sector market for housing development, which left the Federal Government unable to compete with the private developers for labor, materials, and project management resources. Plus, the individual Marine's Basic Housing Allowance (BAH) did not keep up with the cost of living in the single family housing market, and the lack of affordable, quality apartments contributed to the housing crunch.

Fifth, the Marine Corps demographics have changed. During the 1940's and 1950's, Marines as single, bachelor residents predominated. Now, however, young, enlisted (and officer) Marines are likely married with families and require larger living quarters.

Sixth, the Government must find more efficient housing management practices. The Government must consider partnerships with business and industry in order to meet the current and future housing needs of its Marines and their families.

Last, the Government can neither afford the in-house design costs, financing, and renovation costs for existing or new housing, nor afford the total ownership costs to own, operate, and maintain an inventory in excess of 6,000 family housing units.

The last fifty years illustrates the changes in the way the Government funds military family construction, whole house repair and renovation, and minor construction repair. The traditional MILCON Government ownership and maintenance approach to military family housing faces political pressures due to the time consuming process and the backlog of under maintained family housing units. A recent solution enacted by Congress may leverage the strengths of the Government's housing assets while providing attractive financing deals to private sector firms. The current economic trend of low interest rates, easily available credit, rising property values, and low inflation favors the Government establishing long term lease of family housing assets.

The Marine Corps introduced Public Private Venture (PPV) initiatives authorized by Congress in direct response to the current market conditions. As housing partners, both the Government and Industry seek to leverage the contractor's ability to benefit through the realization of tax shelter benefits, which the Government cannot claim.

The Marine Corps' and Navy's recent housing history began during World War II and evolved during the Korean Conflict, Vietnam Campaign, the Cold War, and the Defense Department buildup during the Reagan era. Within the last 10 years, the Marines have responded to Desert Storm and recent anti-terrorist campaigns around the world.

The Government's initiatives to meet the economic conditions of the day started with Wherry, Capehart, Turnkey, 801 and 802 projects, and most recent, the adoption of PPV efforts to meet the Department of Navy's military family housing needs.

Early Government military family housing procurement strategies focused on the ability to control the process and cost. In the Invitation for Bid (IFB) scenario, the Government developed plans and specifications with in-house design team assets, which the housing construction contractor built as stated. As the DoD became smaller and the Government's budget decreased, the Government shifted responsibilities and risks from it to the contractor. The Government decreased the level of project oversight, outsourced the design process and quality assurance, and relied on private sector management of functions including technical and contracting responsibilities.

During the last twenty years, DoD's housing acquisition strategy, which includes dealings with industry, evolved from (IFBs), to Request For Proposals (RFPs), to recent initiatives in Public-Private business agreements. PPV acquisitions have also used additional steps of Request for Quotations (RFQs) and Best Acceptable (BA) stages within PPV source selection processes.

The Government further responded to changes during the 1990's by shifting from in-house design projects to outsourcing the design responsibilities to the Architect-Engineer firms, which design the project. This became a fundamental shift in the acquisition strategy, with the private sector assuming the responsibility for the Design-Build of military family housing projects.

Also, during the late 1990's, the Government and Industry shifted from IFB to RFP acquisition processes. This resulted in the selection of contract awards moving from the low bidder to the contractor that best met the Performance and Selection criterion for award. The Government began to increasingly rely upon other factors such as quality, performance, past performance, on-time completion, and customer satisfaction, as a basis for award selection. Contractors had to develop internal means to measure each of these selection factors, which contributed to their overall ranking.

The Government's shift to the use of Design-Build from Design-Bid-Build and RFPs resulted in the Government giving up some process controls while the contractor assumed more risk. However, achieving the Government's goal enabled the contractor to gain efficiencies managing their own resources and establishing strategic partnerships and joint ventures, while the Government dealt with the challenges of optimizing fewer available resources during the era of downsizing.

The focus of the study examines the current and recent housing contractors over the last three years, which comprise the Department of the Navy's (DoN) construction

supplier base for the Marine Corps at Camp Pendleton, California. The study shall examine the changes in procurement methods for the Government to obtain these construction, maintenance, and repair services contract for military family housing.

The study shall also examine the use of the following:

- Partnerships, both formal and informal, between Government and Industry
- Joint ventures (JV)
- Limited Liability Corporations (LLC)

The study shall review trends in an effort to report how these trends might enhance the Government's present and future acquisition strategy concerning meeting the needs of military family housing requirements at Camp Pendleton.

#### **B. PROBLEM STATEMENT**

The study investigates PPV as a new approach to the Marine Corps' housing needs at Camp Pendleton. The study shall examine the transfer of responsibilities and risks from the Government to the private sector developer. Specifically, the study seeks to determine the answers to these two (2) primary research questions:

- How can the DoD, in this case, the Navy, improve construction management?
- What are the differences in PPV business partnership agreements compared to the traditional MILCON contracts approach for construction management?

In general, the study shall seek to answer these subsidiary research questions:

- Who are the current construction military family housing construction contractors that have current, and or recent contracts at MCB Camp Pendleton?
- What are the demographics of the construction supplier base supporting MCB Camp Pendleton?
- What effect does the construction contractor's organization have on the type of contract awarded by the Navy to these firms?
- How does the PPV contractor's organization differ from the traditional construction contractor in their contract management?
- What recent communication and management tools have construction and PPV contractors adopted within the last three years in order to increase efficiencies in contract management?
- What are the cost benefit tradeoffs contractors consider when deciding to upgrade to current information technology architecture within DoD and industry?
- How do construction and PPV development firms acquire and sustain contract management skills?
- What are the current trends in Navy contract awards for military family housing requirements? (i.e. IFB, RFQ, RFP, PPV business agreements) and are awards sole source, competitive, or multiple awards?

#### **C. RELEVANCE OF THE STUDY**

The study is important for four [4] reasons.

First, the research may identify issues within the new PPV military housing privatization initiative that concern private industry. Since previous housing construction and renovation contracts at Camp Pendleton have used various acquisition strategies, acquisition planners must understand the impact of PPV's on industry in light of the current stage of cyclical economic and market conditions.



The DoD policy states that PPV may provide as much as a 10% cost savings and improve the QoL of a much greater segment of the military housing family community over conventional approaches. This study shall identify the potential areas of concern by contractors and the Government, which may impact the degree of anticipated cost savings.

Second, the study identifies which factors, if any, are associated with changes in the Government and PPV developers' business agreements and the program objectives specific for MCB Camp Pendleton's housing needs. Identifying such factors would assist Government and industry acquisition professionals in improving the state of the Marine Corps' significant housing problems.

Third, the study examines the legal and statutory regulations in effect since 1996 and their applicability in terms of DoD's ability to meet its critical goal for eliminating all inadequate housing by the year 2010. The sample for the study draws predominantly from the geographic region surrounding MCB Camp Pendleton. Due to the requirements to comply with strict environmental and building codes (Federal and the State of California), and the coordination necessary with local suppliers and trade professionals, most of the previous prime contractors maintained an operations location in the Southern California area.

This study examines the recent PPV award for DeLuz housing area and considers the possibility of additional future PPV project awards which would cover more than 50% of the base housing. An examination at this point provides comparisons against earlier MILCON projects for military

family housing design, construction, and renovation. This study may assist in the decision-making of the Navy and Marine Corps prior to potentially proceeding with a blanket PPV program for the entire base at MCB Camp Pendleton that would include over 6,000 units.

Fourth, the study may shed significant light on PPV and assist in developing the MCB Camp Pendleton Strategic Plan and the overall plan for Marine Corps PPV. Since the researcher drew the sampling of the study from a geographic region that includes a wide variety of housing projects with housing units in various stages of renovation, similar bases might derive benefits from this study. However, the study does not imply that similar organizations shall yield similar findings. These comparisons apply only to the discussion of PPV initiatives contrasted with traditional MILCON housing contracts at Camp Pendleton

#### **D. PURPOSE AND OBJECTIVES**

The purpose of the study examines potential PPV developers and current housing construction contractors' attitudes towards the Navy's recent trend in the design, construction, and maintenance of Marine Corps' military family housing units at Camp Pendleton. The study looks at the contracts, including task order awards, and business agreements entered into between the Government and family housing construction contractors during the period of 1999, 2000, and 2001.

The study shall provide an overview for previous contracts that affect the design, construction, and renovation of family housing units at Camp Pendleton. The study examines the potential that future business

agreements may have on the DoN and the Southwest Division, Naval Facilities Engineering Command (the procurement agency providing support for MCB Camp Pendleton housing) and the other military family housing communities on base.

#### **E. RELEVANT HYPOTHESES**

The study examines the following hypotheses:

- PPV initiatives have a lower life cycle cost than
- traditional MILCON procurement methods and provide the Government a greater return on investment.
- PPV initiatives decrease Government oversight requirements but increase Government responsibilities in terms of the direction, coordination, oversight, and supervision of the acquisition support team.
- There is significant industry interest in real estate diversification through the use of PPV initiatives, which provide firms a long-term flow of rental income that is independent of economic cycles.
- DoD, specifically the Navy, can leverage private sector funding and produce cheaper housing units faster when built in accordance with market standards instead of military specifications.
- Establishing partnerships with successful contractors and entering into long-term relationships can reduce the Government's contract administration burden, including the housing management and property management oversight.

#### **F. LIMITATIONS ON THE ORGANIZATION OF THE STUDY**

Certain conditions beyond the researcher's control restrict the study. The voluntary nature of the contractor's participation forms an important element of the study. Individual involvement in this study includes in-person interviews, telephone interviews, mail, and

electronic mail correspondence. All of these elements rely on volunteers with different motivations. The nature of the sampling potentially limits the study. Attitudes of individuals not choosing to participate in the study may differ significantly from those of participants.

The sample consists of an "incidental sample" (Guilford, 1965), i.e. subjects participate on the basis of availability and willingness to cooperate. This factor may restrict the general validity of findings regarding subjects' attitudes.

The study is also restricted regarding the individual characteristics of the respondents. Since the data gathering takes place over a short period of time (90 days), there is no method to measure how these descriptions may change or how future unknowns, including a change in the contractor's organizational structure or personnel changes, may affect the study.

In short, future researchers may wish to rely on current data through a retest rather than these static descriptions for a more accurate view of current PPV sentiments.

The attitude toward the organizational planning policies is assessed through a self-developed questionnaire. The manner of the questionnaire or other survey techniques may affect findings regarding PPV opportunities within an organization's planning process.

Finally, the study includes those individuals who are responsible for the day-to-day management of military family housing contracts. A survey of management and non-

management from other departments may reveal different results.

#### **G. DELIMITATIONS OF THE STUDY**

The study delimits the scope in a number of ways. First, the study is restricted to DoD construction contractors and PPV developers, and more specifically to those contractors that have received awards including business agreements with the DoN concerning Marine Corps housing projects. So, results of this study may not describe other, similar populations.

Second, the study delimits to a specific service, the DoN. Therefore, readers should not generalize these results to other branches because of differences in service strategies such as acquisition methods, and size and scope of projects.

Third, the study specifically concerns MCB Camp Pendleton. Those interpreting findings from this study should not assume the results would apply to other areas.

Further, the results may be sensitive to timing of pending contract awards, contractor's expectations based on personal experience with PPV, and the level of contractor's satisfaction with the Government.

This study focuses on the award of contracts and business agreements by Southwest Division, Naval Facilities Engineering Command, within the last three fiscal years.

The research uses only primes as contractor sources and the conclusions will not necessarily pertain to subcontractors. The researcher uses a standardized self-developed form for data gathering. Results could be

sensitive to the survey instrument, as well as the level of management interviewed. This study centers on the Project Management level for control subjects, perhaps a select sub-population. A less select control group population may indicate different results.

#### **H. ASSUMPTIONS**

The study assumes readers understand basic legal, acquisition, contracting, and business terms in relation to Government contracts, partnerships, and business agreements.

#### **I. OVERVIEW OF THE STUDY**

As previously stated, the purpose of the study is to analyze the principal characteristics and trends of the construction supplier base. Hopefully an understanding of these trends will enhance DoN's current and future military family housing acquisition strategy - notwithstanding, its focus on Camp Pendleton.

Chapter II provides a review and analysis of the supporting relevant literature. It discusses the background of Navy housing at MCB Camp Pendleton, housing options, and the legislation enacted in recent years that is shaping the military family housing program.

Chapter III presents the methods and procedures of the study. Chapter IV presents and analyzes the data collected. Chapter V consists of the conclusions and recommendations. The final chapter answers the primary research questions raised during the study regarding the Navy's opportunities to improve construction contract management. The researcher concludes with the implications of the trends analysis, as well as a summary of findings,

discussion of their implications, and suggestions for further research.

## **II. CONSTRUCTION SUPPLIER BASE**

This chapter provides a review and analysis of the studies relevant to the principal characteristics and trends of the construction supplier base, examines the relationship between the Government and Contractor, and assesses the impact on the DoN's current and future military family housing acquisition strategy on Camp Pendleton. The review itself is organized in sections: military family housing legislation, current military family housing acquisition strategy, acquisition process, MCB Camp Pendleton issues, and contractor trends.

### **A. RECENT HISTORY OF MILITARY HOUSING LAWS**

This section discusses a historical overview of military family housing, with special attention paid to recent federal laws pertaining to Public - Private Ventures (PPV). The Federal Government previously used PPV's to obtain private financing of the initial capital and create a long-term lease partnership with private investors. Recent legislation attempted to broaden its application.

The FY-95 National Defense Authorization Act provided the Secretary of the Navy authority to establish a Housing Investment Board to identify, evaluate, and recommend partnerships with housing developers [NAVFAC Policy ltr Sep 1999]. Congress selected the Navy as the test service to use this new Limited Partnership (LP) authority in an effort to stimulate development of housing markets.

Based on this authority, the Navy established a board to test market this new authority. The board selected Corpus Christi, Texas, and Everett, Washington. These



locations had smaller housing markets, existing housing deficits, and a higher likelihood of interest by housing developers. DoD's plan was to achieve quick, small successes and gain momentum and political support for larger, more ambitious PPV projects [Ayers, June 2000]. DoD planned the larger markets of Norfolk, Virginia; San Diego, California; and MCB Camp Pendleton for the second round of PPV.

The FY-96 National Defense Authorization Act expanded the LP authority to other services and provided a number of new authorizations known as the Military Housing Privatization Initiative (MHPI) Act (P.L. 104-106) [NAVFAC ROICC Policy ltr Sep 1999]. The services were provided with additional private sector methods to operate, maintain, repair, improve, replace, and construct new military family housing.

Congress originally authorized the PPV program authority with a five-year performance assessment [CNO PPV Housing Policy Memo: Jan 1995]. Congress set this timeframe as a sufficient period to evaluate the potential long-term feasibility of Public-Private Ventures. The FY-96 Authorization Act (sections 2873, 2875, 2877, 2878, 2880, and 2881 of the MHPI) provided opportunities for the Federal Government to use the following tools [CRS Report MHPI: July, 2001]:

- Direct loans and loan guarantees of up to 80% of the value of the project
- Leasing homes to be constructed by a developer
- Investments into non-governmental entities, such as the limited partnerships authorized in FY-95. The Act expands the authority of the FY95

legislation by allowing conveyance of land or facilities as the military's contributions to the partnership

- Rental guarantees
- Differential lease payments to supplement service members housing allowances (BAQ/VHA) in order to encourage the lesser to provide available housing to military members and reduce out of pocket costs to the service members.

One of the primary reasons for these initiatives was to improve the quality of life of junior enlisted service members [CNO PPV Housing Policy Memo: Jan, 1995] who have identified out of pocket costs for housing and sub-standard housing as significant reasons for leaving the services. This was reflected in the trend of declining re-enlistments during the 1990's of junior enlisted.

During 1996-1998, the Department of Defense established the Housing Revitalization Support Office (HRSO) to coordinate application of these new initiatives from concept development, market survey, analysis of alternatives, recommendations, initial site visits to final solicitations and awards [Ayers, 2001].

After examining the progress or lack thereof within the first two years of MHPI implementation, the GAO criticized DoD for its slow progress [GAO Mitigate Inequities: Sep 1996]. Specifically, in 1998, GAO demonstrated that initial evaluation of life-cycle costs of privatized housing compared with traditional military family housing showed a potential cost saving of only 10% or less.

GAO further criticized the DoD's use of a 50- year lease period as too long of a commitment since DoD was

unable to accurately forecast housing needs, which may not exist [GAO Improve Operations: Sep 1998]. GAO further cited a need for better long-term planning and coordination with local communities.

DoD responded to the GAO criticism by changing its original PPV execution plan. Since only the two small-scale, on-base projects (Corpus Christi and Everett) reached the solicitation phase during the first two years for PPV, DoD responded to criticism by switching from a centralized management structure to a de-centralized approach [Ayers, 2001]. This empowers the Services to implement their own privatization initiatives.

Another factor for the slow start was DoN's revision of its PPV strategy. This plan would eventually reduce out of pocket expenses to service members from 15% to zero, but delayed initial approval by four months [NAVFAC Family Housing Privatization Plan: Jun 2001].

In 2000, GAO issued a follow-up report which stated that since no projects under the MHPI has been fully implemented there is no evidence to prove that PPV processes are faster, more economical, and can eliminate inadequate housing within DoD's timeline [GAO Concerns: Apr 2000].

GAO encouraged the DoD to develop evaluation plans to include measurements of evaluation of each authority, comparison of actual to estimated project costs, developer's performance, and housing residents satisfaction surveys. DoD concurred with the recommendations [GAO Concerns: Apr 2000]. As a result, the Navy awarded four project, including the first phase at MCB Camp Pendleton.

Also, twenty-six DoD privatization projects were in various stages of development. DoD released solicitation packages for twelve projects and developed more than fourteen more projects using the initiatives [Ayers, 2001].

Based on the recent implementation of the MHPI initiatives within the last several years, Congress recently reauthorized the program through December 31, 2004 [Union Tribune: Aug 2001]. Extension of the program was due to the numerous projects in development and the response from industry regarding the use of these initiatives.

#### **B. ACQUISITION STRATEGY ISSUES**

The Navy and Marines have relied on a variety of private sector initiatives for acquiring housing since World War II. Initially, the scope of military family housing was much smaller and existing legislation did not provide much flexibility for private sector initiatives.

During World War II, DoD met the demand for military family housing through a combination of on-base and local community resources. Officers and/or their families comprised the majority of the military family housing pool [CRS Report MHPI: July, 2001]. Most of the enlisted troops were housed in ships or in bachelor barracks.

However, housing requirements grew and traditional MILCON appropriations were not sufficient to meet the needs for military family housing. Congress then introduced several initiatives in order to encourage private sector finance and developer involvement [CRS Report MHPI: July, 2001].

Wherry and Capehart housing programs became popular because they eliminated the need to appropriate funds in advance by using private sector financing to build units for military service members [CRS Report MHPI: July, 2001].

Wherry housing was the first private sector initiative implemented. Known as P.L. 81-221, and lasting six years, from 1949 to 1955, this program allowed Services to select best qualified builders to meet the needs for each base. The builder secured private financing and constructed homes on Government-controlled land for rental to military personnel [CRS Report MHPI: July, 2001]. The Government changed the program after several years to avoid sole source situations and increase competition.

Instead of dealing solely with builders, the Government decided to build relationships with the designers. This led to Architect-Engineer firms developing standard base and neighborhood housing plans [NAVFAC Family Housing Privatization Plan: June, 2001]. Builders would then compete against these standard plans and specifications. This program provided the majority of military family housing in existence today. Under this approach, the private developer kept the title to the property. In 1957, the Services began purchasing the Wherry units from the developers.

The next private financing initiative, Capehart housing was similar to Wherry except that title was turned over to the Federal Government upon the completion of the project [CRS Report MHPI: July, 2001]. And instead of receiving a housing allowance and paying rent to the developer, as in the previous Wherry initiative, Capehart

tenants forfeited their housing allowances and DoD paid the mortgage.

During the Cold War, turnkey operations became the favored method for procuring Navy housing. In the 1980's, the Government favored invitation for Bid (IFB) procurements [Ayers, 2000]. The Navy developed the plans and specifications relying on in-house resources. Government control was more important than the cost of the project.

In the late 1980's, there was a shift to a more design-build focus [Southwest Division Small Business Trends: Nov 2001]. In the 1990's, DoD introduced turnkey projects based on requirements criterion and 801 and 802 leasing programs (P.L. 98-115) so contractors could finance the construction of military family housing [Ayers, 2001]. However, because of the Government's financial accounting system, the leasing programs impacted the Services' budgets and reduced funds for other projects. These made the Services choose between construction funding projects. DoD could not justify their use and therefore could not maintain its support for these types of projects.

The lack of consistent and sufficient funding sources for military construction, renovation, and repair has led to the MHPI public-private venture becoming the Navy/Marine Corps' preferred method for meeting housing needs [CNO PPV Housing Policy Memo: Jan 1995].

However, DoD has also introduced the concept of performance criterion specifications in which the contractor develops the solution using its design team. This places more risk on the contractor, but provides more

opportunity for improved efficiencies in their processes and increases their potential profit [Ayers, 2001].

In recent years, DoD has changed its policy in several ways. First, the Services concentrated efforts to accommodate the growing number of enlisted members with families. Second, prior to the recent PPV initiatives,

DoD favored private sector housing for the families of both officer and enlisted personnel in areas in which it is available and affordable [CRS Report MHPI: July, 2001].

The acquisition strategy for PPV appears to offer the maximum feasibility benefits when considered for projects such as the following [Ayers, 2001]:

- Replacing rather than constructing new units;
- Renovating rather than replacing;
- Using multi-family dwellings where possible;
- Using minimal lease and loan periods;
- Construction for as many units as possible; and
- Selecting areas where the land has value and rents exceed operating costs.

However, DoD policy requires that all MHPI projects achieve a leverage of at least a 3 to 1 ratio [DoD Draft Policy Memo: 1998]. This is sometimes complicated because the Government has not done a good job comparing estimated to actual costs. The Government's ability to accurately track these estimates and actual costs has raised concerns of the auditing agencies.

Recent PPV projects have seen leverage ratios calculated at 3 to 1 (minimum requirement) up to 33 to 1 [MCB Camp Pendleton Phase II PPV Brief: May 2001]. Because

of this, challenges exist with developing an effective acquisition strategy in which agencies identify PPV as their preferred choice.

Currently, GAO shows cost savings from PPV at about 10% [GAO Continued Concerns: Apr 2000]. However, in the same report, GAO admits that they have not gathered enough data at this point to reach conclusive results. Studies show that agencies can interpret circumstances in favor of or against PPV.

The NAVFAC relies on PPV Planning in order to alleviate some of the potential problems. Their approach consists of a four-point plan that includes schedule, checklist, base services, and marketing [NAVFAC Family Housing Privatization Plan: Jun 2001]. As part of scheduling, the agency appoints a steering committee, flowcharts all significant activities, encourages stakeholder involvement, and conducts face-to-face meetings in order to engage with those responsible for tracking the progress of action items.

Checklists such as base contracts, utilities plans, leases, allotments, and transition management are used for item assignment and tracking [NAVFAC ROICC PPV Policy: Sep 1999]. Base services consideration requires evaluation of fire and police protection, utilities, schools, recreational services, family services, and existing contracts. The other component, marketing, requires developer -led meetings and brochures and interactive web-based information tailored to the unique aspects of the particular community [Ayers, 2001].



### **C. PPV ACQUISITION PROCESS ISSUES**

The Acquisition Process requires evaluating housing needs for renovation, replacement, and construction based on a scoring system that provides life cycle cost estimates and prescribes the lowest cost alternative [Navy Thresholds Reporting Brief: Jan 2000].

In support of MCB Camp Pendleton, the Navy and Marines prepare a site review and feasibility study as part of this process [MCB Camp Pendleton, Privatization Concept Brief: May 2001]. This includes evaluating the current local private housing market and preparing a cost-benefit comparison between the use of a MHPI package and traditional construction methods. This determines the decision whether to pursue PPV or traditional methods.

Once the Navy completes a cost justification analysis and receives proper approvals, the Service notifies Congress of its intent to issue a Request for Proposal (RFP) [Ayers, 2000]. After Congress approves the development of PPV projects, the supporting contracting activity prepares the RFP and notifies Congress of its intention to issue the RFP [Ayers, 2001]. In the case of MCB Camp Pendleton, NAVFAC Southwest Division provides contracting support.

Then the two-step source selection process begins. First, the agency releases the Request for Qualifications (RFQ) under full and open competition procedures. Developers submit their Statement of Qualifications (SOQ), which the Source Selection Board (SSB) reviews and selects a maximum of four offerors to participate in the next step [Shore Installation Programming Board: March 2001].

Second, the agency issues the RFP for two proposals, cost/financial and technical, which the board evaluates independently of one another. During this process, the Government may encourage oral presentations to provide contractors and developers and opportunity to present their team. This gives the Government a chance to evaluate the teams against the source selection factors. Most agencies encourage oral presentations as an opportunity to evaluate the project team and their management. Once the SSB recommends a contractor to enter into negotiations, the SSA and NAVFAC must grant approval [De Luz Public -Private Venture (PPV) Implementation, November 2000].

After negotiations and DoN/OSD approval, Congress requires notification. The service must transfer specific housing funds for the project, and all parties sign a business agreement.

#### **D. MCB CAMP PENDLETON HOUSING ISSUES**

The Navy's reliance on commercial housing near MCB Camp Pendleton has not met the rising demands of the base. There are several reasons why on-base housing demand exceeds the supply. First, the dream of home ownership remains unattainable for most due to current economic and market conditions [Navy Region Southwest PPV Report: May 2001]. Second, a lack of rental properties in the local commuting area forces Service members to commute between three to four hours each day, and third, the insufficient Government-provided housing subsidies, known as Basic Allowance for Housing (BAH), meet only approximately 80% of the housing costs [CRS Report MHPI: July, 2001]. Marines must pay out of pocket to cover the additional costs.

Areas such as MCB Camp Pendleton, in which local housing remains extraordinarily expensive or unavailable, have created a demand for improving the quality of life for its sailors and Marines by lodging members and their families in quarters built with appropriated funds.

This surge of demand by both officer and enlisted personnel has also demonstrated that older on-base housing does not meet the current size and standards of today's service members and their families. (DoD constructed the majority of units during the early years of the Cold War, between 1950 and 1966) [CRS Report MHPI: July, 2001].

In the past, MILCON projects served the needs for renovation, repair, and construction. However, the lengthy planning cycle for these projects combined with the uncertainty of funding and the family housing crisis has created a need to evaluate innovative ideas [Ayers, 2001].

From this, several factors contributed to the PPV becoming the acquisition strategy of choice for MCB Camp Pendleton. Rapid regional growth since World War II (more than any similar sized region in the United States) and urbanization increased in the Los Angeles-San Diego region [Union Tribune, Aug 2001]. Commercial and residential developers and builders competed to acquire properly zone land or revise zoning regulations for their projects. This caused the price of the land to increase and made single-family housing unaffordable for the majority of military service members.

Also, due to the State of California's laws concerning construction defects, most builders avoided multi-family housing units or townhouses. Communities and developers

worked together to limit the development of affordable family housing [Union Tribune: August, 2001]. For example, the city of Oceanside (and other areas) allowed developers to pay a fee in lieu of building affordable housing. This community-backed practice was supported in an effort to clean up Oceanside during an era of downsizing after WWII. Unfortunately, during the last twenty years, as the size and housing requirements of MCB Camp Pendleton grew, the number of affordable housing units available continued to decline.

The Navy rejected use of MCAS El Toro's (a BRAC casualty) military family housing to meet MCB Camp Pendleton's needs because of concerns over commuting times and distances [Navy Region Southwest PPV: May 2001].

Until recently, a multiple award contract served as the primary source for wholehouse renovation and repair projects at MCB Camp Pendleton. This contract encourages four contractors to compete for renovation and repair task orders. During the last three years, the Navy awarded task orders at San Onofre and Forster Hills for repair of more than 500 housing units under this contract. However, the greatest periods of growth in the history of military family housing occurred within the previous era of privatization. So DoD has gone back to these methods but this time with a more attractive arrangement. As a result, in 2000, the DoN reached a business agreement with Hunt Construction Corporation to renovate the oldest housing area on base [De Luz Public -Private Venture (PPV) Implementation: Nov 2000]. The DeLuz housing area consists of 512 units built in 1954, which were last renovated in

1983. Hunt will construct 712 military family housing units to meet the needs of enlisted members and improve their quality of life. Hunt has formed a Limited Liability Corporation known as De Luz Housing, LLC as the business entity with which to deal with the Navy [Southwest Division PPV Concept Brief: May 2001].

#### **E. CONSTRUCTION HOUSING SUPPLIER BASE TRENDS**

The researcher reviewed the construction industry trends because of their potential impact in shaping how the MCB Camp Pendleton pursues its current and future housing acquisition strategy. The literature also provides information for comparing opinions of military family housing contractors in this study with others outside of the study group.

The literature identified the following trends as significant in the housing construction and development industry: technological advancements, bonding requirements, liability issues, and strengthening the role of the designer.

##### **1. Technology Advancements**

The literature indicates that the construction industry increased productivity, in recent years, by using hand held computers and software programs to communicate with their headquarters. Products such as Palm pilots, PocketPcs allow contractors to organize and update schedule information, prepare and process requests for information (RFIs). Contractors can use these wireless data devices to process change order requests, e-mail orders to suppliers, schedule turnover of housing units to Government personnel, and send electronic photos [ENR, May 2001].

Mobile computing allows contractors to reduce trips back to their field office saving costs. This private sector initiative similarly supports DoD's objectives of paperless contracting, (Paper Reduction and Elimination Acts), and electronic contracts.

Research indicates that continued success of these products increases productivity, and provides real time data transfer, approvals, and feedback to the job site [ENR, May 2001].

## **2. Bonding Requirements**

Surety underwriters have seen an increasing ratio of net losses to direct premiums, over the last three years. In 1998, the loss ratio was 22%, in 1999 24%, and in 2000 27% [ENR, April 2001]. This trend may mean contractors that had previously had bonding limits of \$50 million may find that they can only receive bonding of \$30 million to \$40 million. Another effect is that premiums may increase [ENR, April 2001].

The concern among contractors is that surety which has been based on the military family contractor's credit and reliability may now require the pledging of contractor's private residences to cover potential losses [ENR, April 2001]. In the past, contractors were able to shop around with numerous surety companies to achieve the best deal and were usually able to avoid personal guarantees. Now however, fewer sureties exist. The remaining sureties are reevaluating their construction contractor relationships.

Sureties rely on construction contractors for 60% of their business and small construction firms are defaulting at a rapidly increasing rate [ENR, April 2001]. The

importance of this literature to the thesis topic is that the Government, may face higher costs and have fewer small business contractors able to receive surety bonding. This implies that in future years, large business contractors will have advantages over smaller firms in obtaining surety bonds.

### **3. Liability Issues**

The literature also revealed a trend of lawsuits by construction firms who used software bid estimating and evaluation systems. The construction firms that used these software products blamed the software for malfunctions that caused their bids to be lower, in some case millions of dollars less than it should have been [ENR, Feb 2001].

Construction contractors however have not found the courts to be sympathetic. The growing reliance on technology discussed above, especially systems with unproven reliability, places responsibility on the user to check their work. Programs are released with flaws that could impact calculations of delivery and performance schedules and bid estimates. Software companies are able to limit their liability by using consequential economic damage disclaimers. These disclaimers may appear on the outside of a diskette pouch or the inside of owner's manual [ENR, Feb 2001].

The researcher finds these developments important because of the growing reliance on estimating software and spreadsheets by both DoN and the contractor community.

### **4. Role of the Designer**

The Construction Owners Association Of America (COAA) has published a new performance-based design model for

architects [ENR, May 2000]. This design agreement radically changes the AIA contracts model, which extends some special protections for architects at the owner's expense. Instead the COAA model drops AIA language that absolves architects of any role in a dispute between an owner and contractor. The COAA eliminates intellectual property classification of design work and gives the owner exclusive reuse rights of the design [ENR, May 2000]. The trend behind this new push is that the legal grounds for designers are changing. Courts have limited tort remedies based on negligence in construction claims. The research indicates construction claims against designers are best decided based on the terms of the contract [ENR, May 2000].

However, placing more responsibilities on the designer, may increase their insurance costs and in turn their design fees [ENR, May 2000]. Owners would benefit from more specifics in terms of schedules, establishment of a seven-day shop drawing review deadline, and designers' obligations to a detailed construction role.

This trend is significant because of the potential future impact on the design industry, which works closely with the construction contractor and developer in PPV projects. Deciding on duties and responsibilities in the new PPV environment will mean the entire key players to examine their current role and adapt to match the evolving needs of the PPV model.

#### **F. SUMMARY**

This chapter presented selected literature that examined the issues concerning military family housing legislation, current military family housing acquisition



strategy, acquisition process, MCB Camp Pendleton issues, and contractor trends.

The researcher presented the connection of Congressional influence in the direction of military family housing and the changes in privatization laws to encourage additional development. The literature indicated a connection between the lack of affordable off-base housing and rental properties with the increase in demand for on-base housing which is hardly surprising.

The literature provides support for this study's hypotheses that DoN primary construction supplier base responds to shifts in Navy acquisition strategy from sole source, competitive award, or multiple award renovation and repair contract, to a PPV development contract [possibly with a Limited Liability Company (LLC)]. The current trend seems to favor LLC. The literature suggests that multiple award and sole source contractors may continue to meet the smaller market of renovation and repair work that is not covered by PPV projects.

The literature also introduced trends identified in the last several years that affect military family housing construction contractors, developers and LLCs: technology advancements, bonding requirements, liability issues, and strengthening the role of the designer.

### **III. METHODS AND PROCEDURES**

#### **A. CONCEPTS**

This chapter presents the methods and procedures of the study. For the purpose of presentation, the researcher divided the chapter into five sections: Description of the Subjects, Description of the Research Instrumentation, Description of the Procedures, and Focus of the Study.

#### **B. DESCRIPTION OF THE SUBJECTS**

The subjects for this study were six construction contractors who were under contract with the Naval Facilities Engineering Command (NAVFAC), Southwest Division, in the state of California from 1999 through 2001. These subjects participated in the Multiple Award Construction Contract (MACC), a program where contractors compete for task order work for housing wholehouse repair, renovation and construction.

Southwest Division NAVFAC awarded one of the contractors a Public Private Venture project in the San Diego area. The researcher drew the participants from an initial pool of 106 participants who requested solicitations for the various contracts. This sample represents all contractors who submitted proposals and received housing awards during the target period. The researcher used no additional sampling. He requested that subjects complete the entire questionnaire. However, he did not eliminate them from the study if they failed to complete the entire testing.

The researcher restricted the study to management personnel. Management and non-management from other departments may have revealed different results.

### **C. DESCRIPTION OF THE RESEARCH INSTRUMENTS**

The research instruments consisted of four subsections:

- A literature review and synthesis of relevant material, personal, telephone, and e-mail interviews,
- A review of public laws pertaining to military housing construction, specifically, military family housing and public private initiatives,
- DoD, DoN, Marine Corps, Southwest Division, Naval Facilities Engineering Command (SWDIVNAVFACENGCOM), and Marine Corps Base (MCB) Camp Pendleton policy and guidelines, and reports by the Congressional Budget Office (CBO), the General Accounting Office (GAO), and
- Researcher's observations and experiences, and two page author-developed questionnaire.

The questionnaire contained 19 statements designed to assess the respondents' opinions regarding recent changes in military family housing acquisition strategies. The second page of the questionnaire contained seven demographic and background questions which assisted in classification purposes. The researcher arranged the classification questions by various categories. A copy of these demographic categories can be found in the Appendix.

The researcher arranged the 19 opinion questions on a five point Likert-type format, ranging from 'strongly disagree' to 'strongly agree.' Several contract specialists developed the 19 opinion statements. All of the contract specialists were familiar with the subject of

military family construction and the recent changes affecting the industry. Each panel member possessed a minimum of 7 years of experience in the acquisition and/or contracting field.

The panel initially generated 30 potential statements. The researcher reviewed the questions based on the scope of the thesis to ensure their applicability. Based on the review, he derived a final list of 19 statements (see Appendix). Additionally, the rigor given to the development of the statements insures a degree of content valid for the opinion statements.

#### **D. DESCRIPTION OF THE PROCEDURES**

The method used included the examination and analysis of relevant literature. Included in the review were the issues surrounding the military construction supplier base. The researcher found numerous relevant reports, briefings, and plans related to the subject.

Also, the researcher found several thesis studies including An Analysis of Public/Private Ventures for the Construction of Military Family Housing (Barrera, 1990) and Optimizing the Privatization of Military Family Housing (1998). These sources provide a historical review of the MILCON process, include an analysis of the problems, and provide an understanding of a privatization strategy.

The literature review also provided current information and data, which adds to the database of information gathered since the previous two thesis studies were prepared. By reviewing current Congressional reports, including GAO and CBO studies, the researcher provides relevant information that can be analyzed and applied to

the current military family housing situation at MCB Camp Pendleton.

The literature review provided the researcher up-to-date information. These reports formed the basis for the development of relevant research questions presented to the contractors in support of the primary and subsidiary questions developed by the researcher.

Additionally, personal and telephone interviews present the effects of DoD, DoN, and NAVFAC policies which have been introduced. The interviews examine their degree of implementation and refinements that have occurred since their initial introduction.

#### **E. FOCUS OF THE STUDY**

The design of the study focused on 3 main areas: the 1996 National Defense Authorization Act, Defense Department, Navy and local agency policies, and researcher's observations.

##### **1. FY 1996 National Defense Authorization Act**

The Act, which President Clinton signed into law, created a Military Housing Privatization Initiative. This law provides DoD with a variety of authorities. These new rules allow the Federal Government to obtain private sector financing, expertise, and management to revitalize military family housing. This study shall examine the effects of these authorities and the selection and reasons for use of such by the Navy for housing at MCB Camp Pendleton.

##### **2. Defense Department, Navy, and Local Agency Policies**

The recent implementation of the privatization initiatives has led to the issuance of guidance and policy

at the organizational level. This study examines the timeframe for the implementation of such policies, and the Resident Officer in Charge of Construction (ROICC) interpretation of such policy. Also the policy section shall examine the use of direct loan and conveyance or lease of land or units approaches for the PPV project(s) at MCB Camp Pendleton.

### **3. Observations of the Researcher**

The researcher relied on his own observations because of his experience working on the team responsible for acquiring housing services at NAVFAC, Southwest Division, San Diego, California. The observations are based on numerous awards in support of the housing construction and design contracts for Camp Pendleton. These include assignments on the West Coast Housing Support Team, the Regional Housing Construction Support Team, and experience as a member of the ROICC office team responsible for military family housing construction post-award management and administration.

Also, the researcher attended numerous military family construction meetings. These meetings and conferences with contractors and other Government representatives covered various housing issues including the management of military renovation, replacement and construction, including public private ventures.

### **F. PROCEDURES OF THE STUDY**

The researcher distributed the questionnaire to the 6 volunteers based on their firm's execution of military family construction on base and their relationship with the ROICC office at MCB Camp Pendleton.

The researcher distributed the questionnaire packets in a standardized manner, and collected all data during one week.

The researcher approached potential subjects as follows.

Hello, my name is Stephen Cannon and I am a student at the Naval Postgraduate School of Business and Public Policy Studies. Would you be willing to participate in a research project that you can complete on your own and return in within the next five days? It will take about 25 minutes of your time and will be greatly appreciated. I do not need to know your name or address.

The researcher guaranteed complete anonymity to all subjects. Participants were given an opportunity to receive a copy of the overall results if they so desired.

## **IV. DATA AND ANALYSIS**

### **A. INTRODUCTION**

As was stated in Chapter I, this study examines potential PPV developers and current housing construction contractors' attitudes towards the Navy's recent trend in the design, construction, and maintenance of Marine Corps' military family housing units at Camp Pendleton. The study looks at the contracts, including task order awards, and business agreements entered into between the Government and family housing construction contractors during the period of 1999, 2000, and 2001.

To review, the study examined seven construction contractors [Harper/Nielsen-Dillingham Builders (J/V), Hunt Building Corporation, Lend Lease Actus, Selco, Inc, Sundt/Nineteman, Joint Venture, (J/V), De Luz Housing LLC, and Lincoln (Property)/Clark (Reality) San Diego LLC.] who participated in the military family housing construction, repair, and renovation mainly at MCB Camp Pendleton. Two of the contractors were unable to participate in the survey. In those instances, the researcher relied on data from other sources such as Commerce Business Daily, and other public records including newspaper articles and discussions with other contractors and Government personnel.

### **B. PRESENTATION OF SURVEY RESULTS**

The chapter has been divided into five sections, corresponding to the nineteen questions relating to construction supplier base managers' attitudes. The appendix contains the entire text of the survey questions.



This section contains a summarized version. These sections include the following:

- DoD's Changes in Procurement Method
- Navy Transfers Risk from Government to Industry
- Industry Issues
- The Rise of PPV and Decline of MILCON, and
- Government Issues

#### **1. Changes in Procurement Methods**

The first survey question asked the contractors, during the last three years, if the contractor's organization, had undergone any changes in terms of changing its organizational structure, establishing formal partnering agreements with the Navy, participating in Joint Ventures, and forming Limited Liability Corporations.

##### ***a. Organizational Changes***

None of the contractors stated that their organizational structure had changed as a result of changes in the Government's procurement method.

##### ***b. Joint Ventures***

Harper Construction was the only firm that had any family housing construction experience as a joint venture. The researcher found two instances, only one of which was in the survey period, in which Harper Construction partnered with Nielsen-Dillingham Builders. Only one of the contractors recently use

##### ***c. Partnering Activities***

All of the contractors stated that they currently partner with the Government on the larger scale projects such as the military family housing construction.

A Marines spokesman stated that [PPV] developers partner with DoN because it provides low risk and maximum flexibility. Additionally he stated that this allows private partners to realize a tax shelter benefit of ownership. The benefit for MCB Camp Pendleton is that it allows the Marine Corps to apply a larger share of net cash flow to high-quality operations, maintenance and allows for recapitalization of units over the negotiated timeframe.

Commenting on the MILCON aspect of partnering, Mark E Chase, P.E. director, acquisition program management, MILCON, recently stated that the naval facilities construction, NAVFAC, seeks a greater partnership with industry, since the Base Realignment and

Closure (BRAC) program is almost finished and more steady housing construction budgets are anticipated.

There is much discussion within the industry concerning the future of partnering. Several of the contractors stated that they were impressed with the Navy's commitment to partnering to quickly solve complex problems outside of the strict parameters of the contract.

#### ***d. Limited Liability Corporations***

Four of the contractors stated that they had formed LLC's within the last three years. Two of the three stated that the LLC's were formed as separate organizational structures and were run as independent centers with their own resources and separate operations charters and profit goals. One organization stated that they used LLC's but did not change their organizational structure in the process.

The Navy considers the LLC one of several of potential structures that can meet the Government's housing objectives. The Navy retains participation, oversight and membership in the LLC structure, but does not retain ownership during the length of the business agreement. Notwithstanding, within the last several years, the researcher's data indicated that the trend favors LLC awards. For instance, the San Diego PPV award and the Camp Pendleton PPV award are both LLC awards. LLC has quickly become the preferred business entity for most regional Navy PPV projects.

## **2. Transfers Risk from Government to Industry**

The two main questions, which were asked, of contractors for this section relate to construction management and similarities, and differences of PPV with MILCON.

### **a. Industry Requests**

One observation repeated by several of the contractors was the Government's apparent lack of funding and commitment of resources to the ROICC office for professional engineers, contract managers, and post award administration. The contractors stated that the pre-award side of contract management, which is handled by the headquarters of Southwest Division, has ample personnel and business line operations. However, the contractors indicate a problem exists with the ill-equipped, short-handed, "combative" personalities of some of the field office personnel.

### ***b. Construction Management Issues***

Three of the contractors stated that their construction management methods had changed as a result of PPV. Two of the firms stated that their management remained the same whether PPV or MILCON projects.

One of the primary purposes of PPV, according to the policy stated in the De Luz Public-Private Venture Implementation is to limit the role of ROICC involvement and transfer risks and responsibilities to the contractor and developer.

Those that mentioned that they were changing their management methods stated the need to acquire property management assets, mediation resources, and work with the Government in a new and dynamic environment. These contractors indicated a concern that the Government was short-handed already and feared the Government's ability to retain and acquire sufficient experts to manage the PPV projects.

In regards to MILCON construction management, the contractors that indicated no change in their management approach stated that the Marines would always use MILCON as another tool along with PPV. These contractors are familiar with the Design Build approach that has already brought about changes in the ROICC's contract management.

The contractors anticipate similar change affecting the PPV side of the Government's operations.

### **3. Industry Background**

All of the contractors maintain operations in Southern California. Five of the contractors have their main

headquarters in San Diego. The others are in Napa, California, and El Paso, Texas. All of the contractors' backgrounds indicated that they are large businesses.

All of the contractors engaged in the business of single family housing construction and most of the contractors also indicated in their Central Contractor Registration database information that they construct multi-family housing.

Five of the areas that data was gathered under included organizational structure, communication and management tools, tradeoffs, acquisition and sustainment of skills, and construction management trends.

***a. Organizational Structure***

The contractors were asked if their organization had changed as a result of the type of contract vehicle, i.e. stand-alone, multiple award construction contract, and competitive task orders. [This question differed from the previous organizational question regarding possible change in regards to shift from MILCON to PPV.]

None of the contractors stated that their organizational structure was affected by the size or scope of their military construction contracts. The contractors stated that the manner in which the Government structures the requirements does not have any major effect on their organization. Several of the contractors stated that depending on the contract whether it is a task order or a stand-alone, they are most concerned about contingency funding to cover Government oversights and unforeseen conditions. Two of the contractors stated that depending on the contract, their contract administration might vary

to a small degree. This would depend on the size of the job and the extent of subcontractor coordination involved.

Concerning the field presence, and management represented, the contract vehicle does not shape their structure.

***b. Communication and Management Tools***

Contractors were questioned regarding their use of communication and management tools within the last three years. All of the contractors stated that they are using some type of remote communications device such as a palm pilot or blueberry personal assistant. Four of the contractors claimed a greater reliance on the use of Project Management software; two contractors stated they use MEANS estimating software in an electronic format.

Several of the contractors stated that their ability to communicate sometimes has been hindered due to the lack of available land telephone lines on MCB Camp Pendleton. A problem made worse because of the few areas on base in which cell phones function. One contractor stated that the ROICC's tendency to have meetings at the Government's office instead of in the field, places additional burdens on their management.

***c. Tradeoffs***

Four of the contractors surveyed said that the Government performs best value source selection tradeoffs in a fair manner. One contractor stated that not enough information was available yet on PPV to determine. However, as a follow-up, to this question, the contractor stated in the MILCON environment the procedures are understood by the Government and the contractors.

#### ***d. Acquisition and Sustainment of Skills***

All of the contractors said they attend conferences and seminars. Often the contractors and Government project partners attend the same training classes. One of the contractors stated that they do not rely on the ROICC office for training classes. Their opinion was that the ROICC office needed the training as much as the contractors. Several of the areas of interest to contractors at this time include safety, environmental, prompt payment act, Davis bacon, and quality control.

#### ***e. Construction Management Trends***

The contractors identified a variety of trends. Most of the contractors mentioned multiple award contracts and design build. Two of the contractors mentioned electronic contracting. Four contractors also mentioned zero or low contingency funds to handle contract issues. These contractors expressed concern that the Government's use of partnering often required more work for the contractor with little remedy for equitable adjustments without going through a costly, formal claims procedure.

Several of the trends were recently identified also by the Southwest Division's Small Business Office which stated that during the last ten years contract bids have gone from 100% to approximately 10%. Meanwhile construction best value procurements have risen to 20% and design- build best value to 40%.

#### **4. PPV Gains while MILCON Declines**

PPV has been identified as potentially the main source of housing repair, renovation, and construction in the next ten years. The researcher asked the contractors to

identify the factors causing the Government to shift to a different way of doing business. Also, the contractors were asked to comment on the likelihood of DoD, and the Marines in particular, meeting their goal of eliminating substandard housing by the year 2010. The last question about the contractors was directed to their interest in future PPV projects.

**a. Factors influencing Change**

The contractors identified several factors for a shift from the MILCON to PPV approach. Most agreed that the timeframe takes too long and funding has been inconsistent. Several contractors favor minor renovation projects over new construction they think there is less risk in the smaller projects. One contractor mentioned that the environmental factors on base and off-base development has forced the Marines to examine their own resources i.e. land, buildings, etc. as assets to leverage in the PPV environment.

**b. Goal of 2010 to Eliminate Housing Backlog**

All of the contractors surveyed stated that they were confident that the Marines could fix their housing problem within the next ten years. Three of the contractors stated that PPV would be the only way the goal could be reached within such a short time frame. The general consensus was that since the initiative had received such a high visibility that the program would succeed despite the cost.

**c. Future Plans**

All five of the contractors surveyed had plans to pursue PPV opportunities. Some contractors had more formal



planning groups developed. Others said they would pursue PPV on a case-by-case basis where it best fit their corporate objectives. Most of the contractors stated that PPV had the potential for a win-win situation for both the Government and industry. They said that the Government could achieve a top quality of life program in a short time frame, and contractors had an opportunity to participate in a highly desirable program in which Wall Street and private investors were interested in owning certain federal properties.

## **5. Government Trends**

The last group of questions the contractors were asked concerned analyzing Life Cycle Analysis, questioning whether PPV was a faster process, lessening the Government's role in housing management, and maintaining industry's interest in PPV.

### ***a. Goal of Lower Life Cycle Costs***

Four of the contractors said that PPV would lower life cycle costs to the Government; one contractor was unsure if this could be calculated at this time. Three of the contractors mentioned that the Government's authorities under the PPV legislation allow the Government to change the structure of the PPV to best suit the requirements of the local developers and financial lenders. The contractors stated that with this system the Government should be able to lower their costs based on the competitive nature of the long-term PPV projects.

A life cycle analysis conducted by the Government in May 2001, indicated [minimal] savings of under \$100/unit per year. This comparison also included BAH rates, which

may fluctuate and may in fact be less than estimated to cover actual costs.

***b. PPV Faster Process***

All of the contractors agreed that PPV would be a faster process. The value of the Government's assets makes the PPV financing attractive to the commercial marketplace. Additionally, the Government has to structure its deal in an attractive manner to bring multiple contractors and developers to the project. The Government has also indicated in numerous briefings that the goal of PPV is to establish faster housing units; not cheaper units.

***c. Less Government Oversight***

Three of the contractors felt that with PPV the Government would have less oversight of military family housing construction. One did not know. The other actually thought that the oversight may increase but that it would be spread across multiple levels of the Government and not just at the ROICC office and headquarters, but rather PPV would receive a lot more Congressional oversight. He expected more GAO reports and other audit agencies to review the PPV projects and that there would be increasing levels of rules and regulations.

***d. Maintaining Industry's Interest***

The contractors mentioned several factors that could maintain the private sector's development: Government willing to offer tax incentives, favorable terms, long term commitment, only attractive option, popularity in state and local governments.

Several contractors said PPV provides an attractive investment opportunity to Wall Street and

pension fund managers who are seeking steady rates of return; not necessarily higher profits. The long term of the PPV arrangements is much more attractive than a two or three year MILCON project. Also, since the PPV projects have been underway for several years now, contractors state that the Navy has learned from previous experiences, and they look forward to working with the Navy on future projects because they seem to have a better handle on PPV at this stage of the game than other Services.

### **C. DATA ANALYSIS AND INTERPRETATION**

#### **1. Changes in Procurement Methods**

The first survey question in this group asked the contractors if, during the last three years, their organization had undergone any changes in terms of establishing a new organizational structure, establishing formal partnering agreements with the Navy, participating in Joint Ventures, and forming Limited Liability Corporations.

##### ***a. Organizational Changes***

The researcher was not surprised by the response that the contractor's organizational structure had not changed as a result of changes in the Government's procurement method.

Since the Government has recently introduced a new series of different contract vehicles within the last three years, i.e. MACC and PPV, it may be too soon to determine if the method by which the Government groups its requirements and selects its contractors, causes sufficient disruption to the contractor's organization to change the very manner in which they do their business.

Therefore, the researcher's opinion is that the changes the Government has introduced may not have a large effect on the contract award winners. Perhaps an analysis of the contractors who did not receive MACC awards or PPV contracts may reveal that those organizations were forced to change their methods in some manner.

***b. Joint Ventures***

The researcher was surprised at the lack of Joint Ventures within the military family housing construction industry at MCB Camp Pendleton. In discussing this issue with several housing officials, the general consensus was that the risks were too great for each of the parties involved in a short-term joint venture project.

The efforts required by both parties to gear up for such an effort, develop methods for communication across organizational structures, present a unified front to the Government, and deal with changes once the contract began, did not appear desirable to the current base of contractors. Even the contractors, Harper Construction and Nielsen-Dillingham Builders, who partnered in the past, may refrain from future partnerships in the future.

If the use of joint ventures to share risks is decreasing, the researcher thinks that other methods have developed in which the contractor shares risks. The two examples, which shall be further analyzed, include the use of partnering and limited liability corporations.

***c. Partnering Activities***

The emergence of partnering activities and the extent by which these agreements supplement the current formal contract agreements between industry and industry

and industry and Government is a significant issue on the larger scale projects such as the military family housing construction.

This study examined the industry and Government partnership which has grown considerably from previous earlier attempts of claim avoidance to a more mature relationship of collaborative exchanges, planning practices, value engineering, and mutual beneficial arrangements.

This new type of focus on the partnering relationship has been embraced by all of the contractors. The researcher interprets this connection to the recent type of contracts which these contractors have entered into with the Government. These long-term MACC contracts with several option years are generally spread across the entire west coast of the United States. The contract management and administration required for these companies encourages the close working relationship with the Government.

[In doing such, since most projects are dispersed], when projects occur in one's immediate area, such as MCB Camp Pendleton, contractors tend to use their best personnel and commit significant resources in order to strengthen their relationship. Likewise, the Government tends to respond quicker, devote more resources, and have better ability to handle contract management and administration issues close to their headquarters base.

#### ***d. Limited Liability Corporations***

The proliferation of the Limited Liability Corporation with the Navy assuming the role of the silent partner, the researcher attributes to the emergence of

Public-Private Ventures. Prior to the two recent PPV projects, at San Diego and MCB Camp Pendleton, none of the prior military family housing contracts examined within the last three years were structured as LLCs.

In fact, four of the contractors formed LLC's within the last three years. The majority formed these corporations as separate businesses. These LLC structures operate as independent centers from their parent organization. The team and resources the LLC commits to the PPV project move to the local area and establish long-term partnerships and business and financial relationships. These LLCs, which the Navy prefers as its primary means of meeting its housing objectives, bring stability and consistency to the military family housing community.

Since previously funded MILCON projects consisted of patchwork repairs at best, not all problems could be addressed at any one time due to the monetary constrictions, and the size and scope of the contract.

Since PPV and LLCs bring consistent funding streams, while still preserving Navy participation and oversight the researcher contends that the developer will have better ability to plan for repairs, fund improvements, and maintain the long term habitability of the housing units because of their organization's ability to quickly respond to the situation and solve the problem. The researcher expects the LLC to become the Navy's and DoD's preferred method of managing privatization assets.

The table below indicates the range of positive responses to each of the four questions posed in section one.

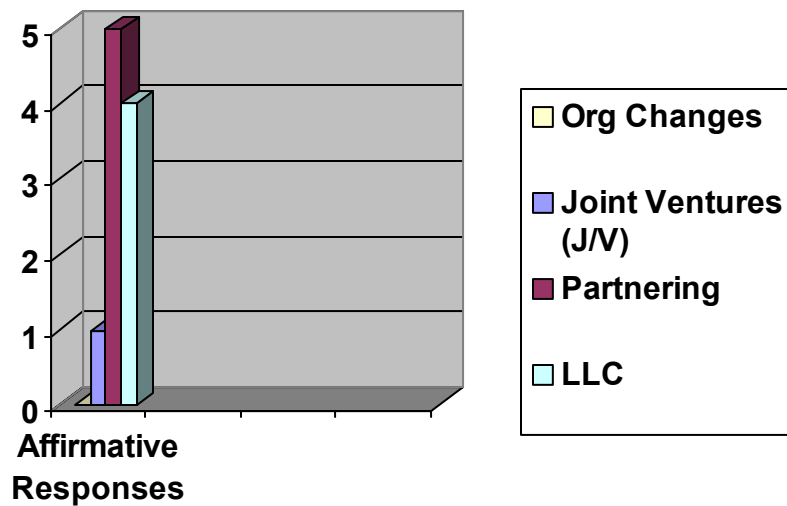


Table 1. Range of Positive Responses to each of the Four Questions from Section 1.

Survey Questions of Above: 1-4. What extent did your organization change in terms of establishing a new organizational structure, establish formal partnering agreements with the Navy, form Joint Ventures, or develop LLCs?

## 2. Transfers Risk from Government to Industry

The researcher analyzed in this section the two main questions. One, how can the DoD improve construction management and two, what are similarities and differences of PPV and MILCON.

### a. Industry Requests

Since several of the contractors expressed concern about the lack of funding and commitment of resources to the ROICC office in terms of professional engineers, contract managers, and post award administration, the researcher thinks that the Southwest Division should shift more resources to the field activity

at MCB Camp Pendleton or co-locate the Project Leaders at the field offices and allow them to work from the field office several days a week.

The organization has failed to respond to the fast paced nature of the construction industry in which time is money. The few technical personnel that the ROICC office is able to commit to the housing projects is insufficient for the size, scope, complexity, and engineering expertise required [mechanical, electrical, structural, etc.]

Currently, there are no incentives for professional engineers to work at the field office because of the lack of promotion opportunities. The researcher formed this opinion based on interviews with several engineers.

So instead of the contractor interfacing with Government professional engineers, the contractor is often times left to deal with an Engineering Technician or a Government-hired contractor who usually leaves within a year.

Based on the researcher's observations having worked within the field office, these issues make the MILCON contractor's job much more difficult. Often times, the contractor does not have a counterpart on the Government's side who possesses the level of project expertise which should be expected for projects of this size. Unfortunately, because of the Government's inability to commit resources to these contracts and establish a sufficient field presence, the contractor occasional



substitutes less experienced, and less professionally qualified personnel to run the project.

Because of the way in which the MILCON projects were operated when problems were discovered by either the Government or the contractor, the problems were usually of a significant nature and required high level management intervention, and the establishment of formal partnering to deal with these issues outside the boundaries of the formal contract agreement.

***b. Construction Management Issues***

Since most, but not all, of the contractors who are conducting PPV projects stated that their construction management had changed as a result of this new approach, the researcher cites this a trend and also a cause for concern.

As stated previously, limited ROICC involvement has become the goal of PPV with risks and responsibilities for the management transferred to the contractor and developer.

The problem during this state of change is that while the ROICC's current size and expertise matches the expectant role of PPV, it fails to meet its current organizational mission, which is still mostly MILCON-based.

While the recent PPV project at MCB Camp Pendleton has caused significant changes in the PPV contractor's contract management approach, the PPV housing units in Phase one of 712, represent less than 10% of the overall military family housing units on base. The researcher acknowledges that a phase II of PPV may take over the remaining units. However, the researcher is

concerned about the effects of one contractor receiving a single award for the ownership of the majority of the base housing assets for the next 50 years. The researcher favors a distribution of the assets among the most highly qualified developers, construction and property management groups vying for these contracts.

The multiple award aspect would develop a larger base of PPV expertise within industry and the local community that could spread to the local, and state level for additional PPV projects.

Of significance, the contractors said they planned no change in their management of the MILCON approach. The majority stated that the Marines would always use MILCON as another tool along with PPV. However, as stated, at least during a transition period, the Government is ill-equipped to meet the needs of MILCON, if any new construction projects or improvement type contracts are introduced.

The Government has stretched its financial, administrative, and management oversight resources very thin while trying to manage two vastly different types of projects PPV and MILCON. Meanwhile, the Government's contract management approach does not fit either situation at this time. Contractors anticipate changes in the PPV side of the Government's operations but not MILCON.

The table below indicates the range of positive responses to the two questions posed in section two.

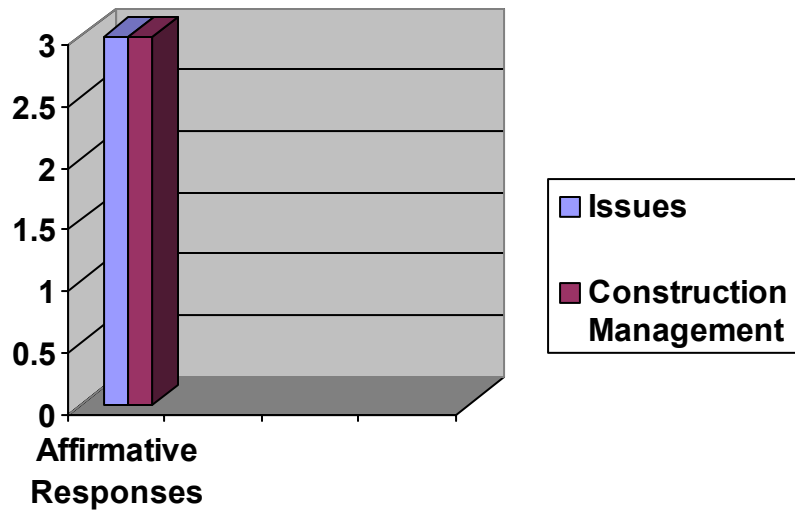


Table 2. Range of Positive Responses to the Two Questions Posed in Section 2.

Survey Questions of Above: 5-6. Can Southwest Division, ROICC office, improve construction management? Does PPV differ from traditional MILCON contracts in contract management practices?

### 3. Industry Background

The main areas for analysis in this section consist of the contractor's organizational structure, communication and management tools, tradeoffs, acquisition and sustainment of skills, and construction management trends.

All of the contractors operate in Southern California; five base their headquartered near MCB Camp Pendleton.

Of the other two, one operates from Napa, California [Lend Lease Actus], and the other El Paso, Texas [Hunt Corporation]. However, both maintain local operations in the Southern California area based on their dealings with the Navy.

It was no surprise upon examining their SIC and NAICS codes that the contractors engaged in the business of single family housing construction. Those are the primary types of work for which the Government contracts to perform based on advertisement in the Commerce Business Daily.

The five areas analyzed in this section include:

**a. *Organizational Structure***

None of the contractors stated that the size or scope of the military construction contracts affected their organizational structure. The contractors stated that the manner in which the Government structures the requirements does not have any major effect on their organization.

The researcher sees minimal influence if any between the Government's packaging and administering of contracts and the contractor adapting their entire organization.

The researcher thinks that because of the early stages of the implementation of the first round of PPV, it is too early too fully evaluate the effect. Also, in those cases, the contractor organization appears to be transforming into a new offshoot organization in the form of the LLC.

For MILCON and improvement projects which may or may not exist in the future, depending on the political success of PPV, two of the contractors stated that depending on the contract, their MILCON contract administration may vary to a small degree. They cited subcontractor coordination involvement and electronic contract administration issues.

The significance of this point is that these contractors do not rely on Navy housing as their primary source of work. There are few MILCON and PPV projects and these contractors are not about to make any major organizational changes based on an occasional [two or three year] contract.

The PPV approach differs from MILCON because PPV provides the needed financing incentive and long-term stability to the contractor. So the Navy is able to achieve an organizational partnership by means of a unique contractor relationship that in the past it has been unable to fully achieve.

***b. Communication and Management Tools***

Since rapid, significant computing, management and information technology changes occurred within the last three years, the researcher was not surprised by the contractors extent of implementation of remote communication devices. Therefore, the use of palm pilots or other tools will only increase in the future.

Several noteworthy points discovered were the lack of the Government establishing any electronic hardware list to interact with industry. It appeared that industry was using several different tools but their Government counterparts did not have the equipment to communicate back to them. Unfortunately, the cell phone coverage at MCB Camp Pendleton is inconsistent. However, none of the contractors mentioned the exploration of other wireless communications, or low tech means such as courier service as an alternative.

Last, no one mentioned the use of video teleconferences as a means of holding more frequent meetings between headquarters and field locations. Even if contractors did not want to fund this expense, these services are now even able at Kinko's and other full service copy shops. These videoconferences could assist the ROICC, headquarters and the contractor to reach rapid consensus and keep projects from slowing down because of problems in communication.

#### ***c. Tradeoffs***

Most of the contractors surveyed stated that the Government does a fair job of evaluating tradeoffs and making best value decisions. This question was significant for the researcher to determine if any significant changes were required in the PPV procurement process at this stage prior to the award of Phase II. The contractors did not raise any issues, although one said it was too early judge.

It is reasonable to conclude that the people and decision-making processes in place make qualified, supportable decisions, from the contractor's perspective, in the minds of the business community.

#### ***d. Acquisition and Sustainment of Skills***

Government personnel in the contracting and technical community, members of the acquisition community, seek continuous professional training and refresher training.

The contractors thought the Government personnel and Government-hired support (CASUs), both need additional training.

The contractors did not think that ROICC sponsored-training was their best source of training information because of the wide variety in training, lack of ROICC experience, and the inconsistent application of current rules and regulation.

The contractors tended to look outside of the Government for professionally sponsored classes in safety, environmental, prompt payment act, Davis Bacon, and quality control. Many of the contractors noted that ROICC personnel often attend the same classes.

This skills assessment means that the ROICC acquisition personnel require more specific skills training. Refresher training should be conducted and lessons learned shared to evaluate implementation. The ROICC had begun an excellent program of training contracting personnel on relevant day-to-day issues. However, there may be a need for further expansion into the technical disciplines. Also, the ROICC may wish to consider the involvement of contractors in some of this training and contractor-led training. These things are significant in order for the ROICC to present itself as a professional organization of housing experts.

***e. Construction Management Trends***

The contractors identified trends, [and those identified by the Southwest Division's Small Business Office]; both reflect the change from IFB to RFP and this change from in-house Government design to Design Build and design-build best value procurements. Additionally, contractors recognized the growing role of the A-E to

influence a project and possibly serve as a lead on the project management and construction in the future.

The significance of the contractors acknowledging best value and design build as trends, is that if contractors realize that low cost is not sufficient for award anymore, then contractors must examine how they do business. They must look for areas to gain efficiencies, leverage these against their competitors, and develop and implement innovations that create value for the Government. Once the contractors start understanding this new process for award, they can begin to structure their organizations to best meet this model.

Because of the radical changes in PPV, it is easier to for both the Government and the contractor to create new organizations. Because of slower developments and overlap of people who are used to doing business the old way, we can expect both Government and industry to have a harder time responding to the changes in the MILCON environment.

The table below indicates the range of positive responses to each of the five questions posed in section three.



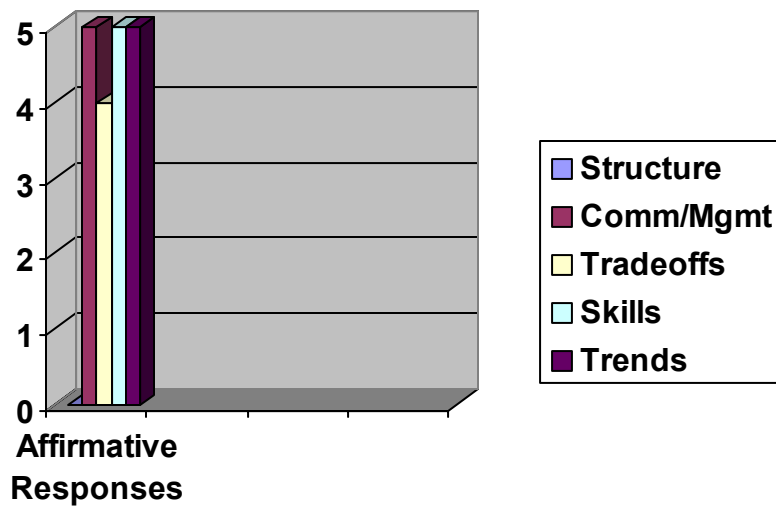


Table 3. Range of Positive Responses to each of the Five Questions Posed in Section 3.

Survey Questions of Above: 7-11. Does the size or type of contract proposed by the Southwest Division for a military family housing project affect your organization's structure? Has your firm adopted new communication and management tools within the last 3-years? Have they been successful? Has the Government fairly evaluated and awarded Best Value Design Build military family housing construction projects using tradeoffs? Does your firm acquire and sustain contract management skills in support of DoD in regards to military family housing contracts? Has your firm identified any current trends in terms of DoD contract type preference within the last 3-years?

#### 4. PPV Gains while MILCON Declines

The Government has identified PPV's with the LLC organizational structure as the preferred acquisition strategy for military family housing repair, renovation,

and construction in the next ten years. Therefore, the researcher asked the contractors to identify the factors causing the Government to shift to a new business approach.

Second, the researcher asked the contractors to comment on the likelihood of DoD, and the Navy and Marines in particular, meeting their goal of eliminating substandard housing by the year 2010.

The third, question, which the researcher analyzed in this section, concerned contractor's current and future interest in PPV projects.

***a. Factors Influencing Change***

Since the Government must operate with less funding, fewer resources, but must house more sailors and Marines and their families, the contractors identified several factors for the Federal Government's shifting of housing acquisition strategy from MILCON to PPV approach. Most agreed that inconsistent funding, unmanageable levels of substandard housing, and outside influences such as State and Federal environmental concerns caused the Government to assess its strengths and weaknesses and adapt a new approach.

Because of the Government's housing assets, the base was able to leverage these in order to achieve repairs quicker to housing units. As a major quality of life initiative, and with more frequent deployment in recent years, the researcher observes that military members, who drive around in their local community and see all of the new housing development, want an equally nice place to live.

Therefore, since the Government cannot afford to house everyone off-base, demand for on-base housing is at its highest levels. The Government lacks resources to single-handedly resolve all base environmental issues. Also, the Government maintains few, if any, functional experts in the diverse fields of housing, real estate, finance, and development. Contractors therefore realize that the Government required an entirely new concept of operations: PPV.

***b. Goal of 2010 to Eliminate Housing Backlog***

Since the contractors stated that they were confident that the Marines could fix their housing problem within the next ten years, it seems that enough political pressure has been raised on the issue of substandard housing that the goal can be reached within such a short time frame.

Therefore, contractors are aware of the emphasis on fast-tracking this initiative, and are likely lobbying for faster implementation of the PPV program while borrowing rates are near historic lows.

The current economic climate may greatly assist in the competitiveness of the PPV marketplace, as contractors wish to lock in highly valued assets, and long term funding streams. Many contractors thought that within 5 to 10 years of the arrangement that profits would materialize and remain consistent throughout the remainder of the agreement.

***c. Future Plans***

Because most of the contractors are pursuing PPV opportunities, most of these contractors may well be in a

good position for future PPV award(s) at MCB Camp Pendleton. However, the researcher contends that other real estate developers and financial teams may target the Southern California area for PPV because of the vastly different arrangement that is possible under the LLC.

Most of the contractors said that the Government could achieve a top quality of life program in a short time frame using the PPV approach. But, the researcher thinks that based on the trends discussed and the attractiveness of PPV, that the Government quickly acquire the skills or hire consultants to assist in the source selection of future PPV awards. Source selectors, who are pulled from the MILCON environment, may not possess the knowledge and experience required for successful evaluation of new alternatives.

The table below indicates the range of positive responses to each of the three questions posed in section four.

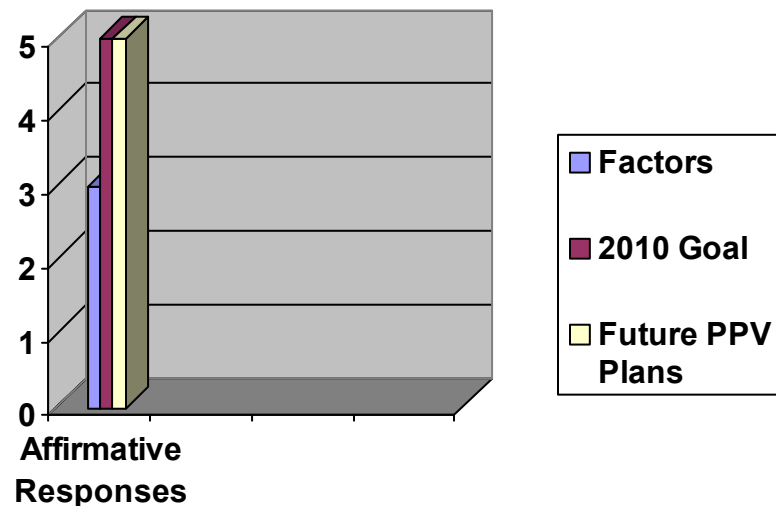


Table 4. Range of Positive Responses to each of the Three Questions Posed in Section 4.

Survey Questions of Above: 12-14. What marketplace factors are influencing the current military family housing construction supplier base and impacting the Government's political decision-making process concerning military family housing? Do you think the Government will achieve its goal of eliminating substandard housing by the year 2010? Does your firm have a PPV business planning section or business opportunities exploration group?

## **5. Government Trends**

The last group of contractor-answered questions analyzed is Government trends. The topics include Life Cycle Analysis, speed of PPV process, the Government's diminishing role in housing management, and maintaining industry's interest in PPV.

### ***a. Goal of Lower Life Cycle Costs***

Since four of the contractors said that PPV would lower life cycle costs to the Government, this study reviewed the areas in which contractors thought cost savings could be realized. The contractors cited the more competitive nature of PPV, recent legislation that has expanded authority to use varying business agreements within PPV, and Congressional pressure to eliminate out-of-pocket housing expenses to sailors and Marines.

The results of this question are interesting when compared with the Government's own life cycle analysis conducted in May 2001. At the time, the Government indicated only minimal potential savings (under \$100/unit per year). However, based on the results of this survey, the competitive nature of the PPV within Southern California, Congressional action may further increase the

attractiveness of PPV to industry, efforts to reduce out-of-pocket expenses to service members, all of these efforts may result in larger than originally anticipated savings. The Navy and Marines might use these savings to fund additional MILCON projects that would otherwise go unfunded.

***b. Faster PPV Process***

The value of the Government's assets makes the PPV financing attractive to the commercial marketplace. There was no question about this in the minds of the contractors. So PPV projects can be much faster. The question remains how much faster, and is the Government prepared to operate in this fast-paced environment?

Under PPV most of the risks and responsibilities transfer to the contractor. However, the Government still retains primary construction support services on issues such as permit coordination and Davis Bacon wages.

Also, while the Government generally assumes secondary responsibility, coordination will still need to be required with either the contractor or developer assuming the primary responsibilities on issues such as quality control, quality assurance, safety, fire protection.

Additionally, the Government has to cope with the general political environment. These new challenges require fast track decision-making authority, contractor trust, and an understanding of the Government's, contractors' and developers' roles. It will be critical for everyone to understand their role to understand

differing roles and responsibilities under each type of contract or business agreement.

***c. Less Government Oversight***

The majority of the surveyed contractors felt that with PPV the Government would have less oversight of military family housing construction process. Because of this shift to contractor oversight one of the contractor's thought that Government oversight would remain but it would shift to a higher level. The researcher concurs and thinks that the negotiation of the PPV agreement is critical to clarify those areas, which the contractor now assumes responsibility.

Undoubtedly, in the future, either the MCB Camp Pendleton Phase 1 PPV project or another early PPV project shall undergo Congressional scrutiny in the form of a GAO report or other similar audit agency. It is incumbent upon the Southwest Division headquarters and ROICC office to ensure that the distribution of the support services into primary and secondary responsibilities receives higher-level concurrence and becomes a working document throughout the organization. A similar matrix should be developed for MILCON projects outlying levels of rules and controls.

***d. Maintaining Industry's Interest***

Tax incentives, favorable finance terms, and long-term commitment, the preference of PPV over MILCON, and the applicability to state and local government, were all factors cited by the contractors as factors that could ensure the long-term success of the PPV initiative beyond its original pilot term.

Since PPV provides an attractive investment opportunity to Wall Street and pension fund managers who are seeking steady rates of return; not necessarily higher profits, the NAVFAC must ensure that the current regulations in place provide the necessary incentives.

As the market changes, the Navy should adjust its policy but in a way that does not keep the best developers out of the market. The long-term success of the PPV arrangement requires implementing lessons learned. Several of the contractors cited the Navy as having a better understanding on PPV at this stage of the game than other Services.

For future phases of privatization to succeed at MCB Camp Pendleton, understanding of the effects of PPV on the entire Government community including the contractor is essential. Otherwise, privatization efforts in other areas such as utilities could be affected.

The table below indicates the range of positive responses to each of the four questions posed in section five.



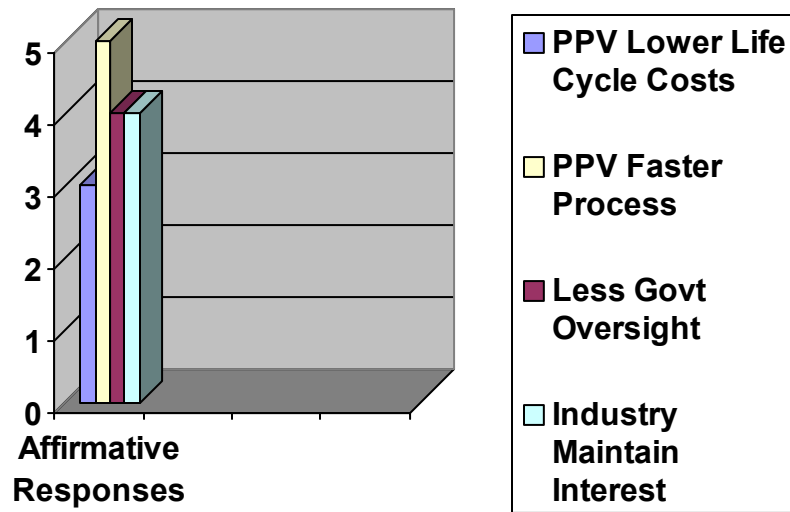


Table 5. Range of Positive responses to each of the Four Questions Posed in Section 5.

Survey Questions of Above: 15-18. Do you think PPV lowers the life cycle costs to the Government for military family housing? Do you think PPV delivers a cheaper and faster housing solution over the traditional MILCON approach? Do the Government's oversight responsibilities decrease and risk transfer to the contractor and developer as a result of PPV? Can the Government's actions maintain industry's interest in current and future PPV projects?

## V. CONCLUSIONS AND RECOMMENDATIONS

### A. INTRODUCTION

The study evaluated the current and recent housing contractors over the last three years, which comprised the Department of the Navy's (DoN) construction supplier base for the Marine Corps at Camp Pendleton, California. It examined the changes in procurement methods for the Government to obtain these construction, maintenance, and repair services contracts for military family housing.

The study also examined the use of the following:

- Partnerships, both formal and informal, between Government and Industry
- Joint ventures (JV)
- Limited Liability Corporations (LLC)

It reviewed the trends in an effort to report how they might influence the Government's present and future acquisition strategy. Of interest to the researcher was how these contractors employing various organizational structures met the needs of military family housing requirements at Camp Pendleton.

The traditional MILCON acquisition process, the study hypothesized, had several barriers to optimal housing services delivery for the construction contractor, the Navy, and the military family housing residents. Analysis of the construction supplier base provided insights into methods for enhancing the military family housing construction environment.

## **B. CONCLUSIONS**

### **1. PPV: A New Approach to the Housing Dilemma**

The study investigated PPV as a new approach to the Marine Corps' housing needs, with special attention to Camp Pendleton. It demonstrated that the Navy could benefit from creating an environment in which multiple housing service options coexist to stimulate builder, developers, and financiers. These new service options provide the Navy greater flexibility but require both the Government and contractors to train and equip multi-skilled staffs. The results of the pilot PPV program for Southwest Division, Naval Facilities Engineering Command, will likely show these new services provide timely, consistent, and customized options to the Navy and Marines.

### **2. Fair Deal? Transfer of Risk and Responsibilities**

The study examined the transfer of responsibilities and risks from the Government to the private sector developer. The research demonstrated that Government employees and contractor employees would have more satisfying work experiences in an environment that facilitated construction support services delivery through redesign of information technology systems. To realize this potential, Government and industry must adapt to the mobile nature of the business. Managers must enhance staff decision-making authority, expand job roles and expectations, and provide adequate compensation based on project responsibility and risk.

### **3. Establishment of New Roles in the Construction Supplier Relationship**

The study evaluated construction suppliers' perception of differences in MILCON compared to PPV housing acquisition strategies. The researcher examined the quality of PPV one year after the award of the business agreement. This innovative housing services support contract required a redesign of the Government housing team. Many of the PPV contractors chose to establish LLC's after award to meet the needs of the Navy, distribute the risk, and establish terms favorable to lenders. This study concludes that the manner in which the Government and Industry perform MILCON and PPV differ based on size, scope, skills, knowledge, and resource requirements.

In general, the PPV projects are much larger, involving hundreds or possibly thousands of units under one agreement; MILCON projects may encompass up to several hundred depending on the authorized budget.

#### **C. RECOMMENDATIONS**

- The Government should maintain a housing operations center with both Navy and Marine assets organized at the headquarters of the Southwest Division. This team should consist of the most capable people within the organization because of the high dollar value of the contracts and their visibility—as well as the new skills required. The team should consist of real estate, finance, contracting, technical, and administrative support, and become its own business line. In much the same manner as contractors are forming new cells to operate as independent profit centers with PPV. The Government should adopt a new approach. It would also strengthen the Government's commitment to PPV and signal a stronger Government emphasis on PPV. Under the current structure, Government

housing personnel currently work on separate Navy or Marine housing support teams, report to different leadership, and often have conflicting goals. ROICC office personnel need representation at the headquarters level, require appropriate funding and training requirements. They also need inclusion of their local planning into the regional housing plan.

The bottom line is that the contractors who interact with the Government need to know that the command possesses a unified approach throughout the life cycle. Also, that the personnel in the pre-award branch are knowledgeable of issues driving the post-award arena.

An understanding of the issues by both parties, as well as the trends affecting the military family housing construction contractor, is required in order for the Government to best leverage its assets and negotiate the best deal considering the current conditions.

Recently, the command advertised a PPV business line leader, yet did not require the individual to bachelor's much less a advanced degree. The qualification that the Government brings forth to the PPV deal does not equal the level of professional commitment we currently ask of the developers, builders, and financial organizations.

- With the trend in privatization awards favoring the LLC organization, the researcher recommends the Southwest Division analyze this type of relationship and the requirements which the Government has committed itself to as part of this agreement. Examining available resources and future resources required in outlying years requires strategic planning and action.

Most of the contractors acknowledged that the Navy seemed to better understand the nature of the PPV commitment, the Government's roles, and the contractor and developers than the other Services. In order to retain this knowledge, and keep the Navy in these dominant positions the PPV authoritative experts,

Southwest Division must establish a learning organization that encourages the real-time transfer of this type of information.

- With the knowledge of the current contractors under contract with Southwest Division and the contractors under contract within DoD supporting other PPV contracts at Air Force, Army and other Navy bases across the country, the researcher recommends Southwest Division sponsor a Government and Industry forum. The purpose of this conference could consist of the first three years of PPV projects, current PPV projects under development, and future projects under consideration.

As DoD publicizes more projects, it is important to determine the size of the viable PPV construction base. Importantly for MCB Camp Pendleton would be establishing dialogue with industry to determine which trends are affecting industry, what agreements are working, and what problems contractors and the Government are experiencing.

The researcher recommends Southwest Division devote two days for this conference. The first day could consist of PPV and the second could consist of sustaining the role of the traditional MILCON contractor. Industry would probably welcome such an opportunity since the last such forum was conducted several years ago when the Government announced the PPV initiative for San Diego. The Navy conducted a briefing on its intent to use privatization to manage its housing shortfall.

- Congress continually changes and revises legislation affecting privatization affecting military family housing construction. These decisions affect our construction supplier base, our family housing residents, and our employees. Recommend twice a year meetings with Congressional representatives, industry leaders in construction and PPV development, and financing, community representatives, and employees to determine the current proposed legislation. Also, after the completion of each

legislation cycle, the writer recommends a briefing of the changes and the potential impacts to all of the stakeholders.

The researcher recommends all meetings regarding PPV should be conducted by video teleconference, and where possible be web-enabled. This allows all individuals interested in the process the opportunity to learn about the future of privatization and the impact it will have on their organization, and their home (if active military). These types of regularly scheduled meetings would provide a constant source of up-to-date reliable information to everyone who may be affected by privatization efforts.

#### **D. ANSWERS TO PRIMARY RESEARCH QUESTIONS**

Specifically, the study provided these answers to the two primary research questions:

- How can the DoD, in this case, the Navy, improve construction management?

DoD, in this case, the Navy, can improve construction management by training Government personnel in the techniques of privatization including financing, development, property management, and risks to the contractor. The Navy can form a separate team both at the ROICC office and at the headquarters to deal specifically with the PPV issues and interface with Government housing representatives.

The size, scope, and increasing commitment both on the Government's side and the contractor/private developer and financier's side, requires more of an organized, educated, and trained workforce to implement the PPV program. The contractors agreed that a role did remain for the Government's housing personnel and that Government should

retain some of these people as liaisons since they are the site and historical property experts at MCB Camp Pendleton.

- What are the differences in PPV business partnership agreements compared to the traditional MILCON contracts approach for construction management?

The main difference in PPV business partnership agreements compared to the traditional MILCON contracts approach for construction management consists of the long-term private finance deal required of the PPV team. The PPV contractor forms a partnership with financial firms, private developers and must consider the opinion and advice of Wall Street. Depending on the current economic conditions, and long-term estimates for interest rates, industry and other interested parties may differ in their reactions. The structure of the PPV deal must fit with the current economic conditions. Whereas, the MILCON contractors would just propose a higher cost of doing business, the PPV contractors must consider more factors.

For PPV projects, publicly traded firms and private firms who require financing are concerned about the availability of funds to put together a business proposal and the long-term feasibility for these types of agreements.

Organizationally, most of the construction firms either develop in house experts for PPV or partner regionally with experts in real estate and finance. The corporate headquarters then leverages these deals to gain expertise in obtaining other federal, state, and local PPV contracts. These contracts may consist of housing, as



discussed herein, or may branch out to other privatization initiatives such as utilities.

Also, PPV firms differ in their approach now because of the long-term commitment by the Government and the attractive location of the site for private developers. Contractors have an interest in the PPV properties, for instance if another round of BRAC was to occur, these contractors could leverage their PPV knowledge to acquire, lease, and develop other land.

The PPV contractor may maintain the same organizational structure as it does under MILCON contracts. In some cases, however, they have developed separate business centers, which act autonomously and are responsible for their own operations and profits.

These new organizations differ from the past MILCON contractors. Some of the new firms attracted to the PPV marketplace were not attracted to the highly competitive MILCON contracts with little or no contingency budgets, difficulties in negotiating change orders, relatively short project length, upfront capital required, and the uncertainty of future work. PPV provides developers attractive real estate access with steady cash flow streams. It has the possibility of attracting private investors in the form of pension fund managers and 401(k) investors attracted to the long term steady profits.

In the past, firms established joint ventures to minimize individual risk to the firm and to share the cost of financing. Now, firms are more likely to form LLC's as separate tax entities, as preferred by the Government. Firms' interest in LLC's historically grows as a hedge in

recessionary times, according to several of the contractors. Therefore, now more contractors are interested in the PPV business because of the favorable arrangements, which the Congress has authorized, including tax breaks, and the Government's quality of life emphasis to solve its own housing problems by the year 2010.

Interestingly enough, most contractors surveyed stated that they would maintain interest in the PPV approach even if the Government abandoned the approach within the next 10 years because PPV opens doors to future opportunities and attracts the interest of other developers, and lenders.

#### **E. ANSWERS TO SUBSIDIARY RESEARCH QUESTIONS**

The data and analysis provided the researcher these answers to the subsidiary research questions:

- Who are the current construction military family housing construction contractors that have current, and or recent contracts at MCB Camp Pendleton?

The current construction military family housing construction contractors that have current, and or recent contracts at MCB Camp Pendleton consist of the following:

- De Luz Housing LLC
- Harper/Nielsen Dillingham (JV)
- Hunt
- Lend Lease Actus
- Selco
- Sundt

Also, the researcher included Lincoln/Clark LLC in the study because of their large scale PPV project and impact within the San Diego region.

- What are the demographics of the construction supplier base supporting MCB Camp Pendleton?

The demographics of the supplier base supporting

MCB Camp Pendleton consists of a relatively small number (<10) of large business construction contractors. Most of these contractors maintain operations in the Western United States, most within Southern California, and are classified under NAICS Code of 23321/2 according to the Central Contractor Registration database [Formerly SIC 1521/1522].

The Census Bureau's website provided the following summaries of the NAICS codes.

#### NAICS 23321: Single-Family Housing Construction

This industry comprises establishments primarily responsible for the entire construction (i.e., new work, additions, alterations, and repairs) of single-family residential housing units (e.g., single family detached houses, town houses, or row houses where each housing unit is separated by a ground-to-roof wall and where no housing units are constructed above or below). This industry includes establishments responsible for additions and alterations to mobile homes and on-site assembly of modular and prefabricated houses. Establishments identified as single-family construction management firms are also included in this industry. Establishments in this industry may perform work for others or on their own account for sale as speculative or operative builders. Kinds of establishments include single family housing custom builders, general contractors, design builders, engineer-constructors, joint-venture contractors, and turnkey contractors.

## **NAICS 23322: Multifamily Housing Construction**

This industry has the same characteristics as 23321 except it is for multifamily residential housing units (e.g., high-rise, garden, and town house apartments where each unit is not separated by a ground-to-roof wall). The units may be constructed for sale as condominiums or cooperatives, or for rental as apartments.

- What effect does the construction contractor's organization have on the type of contract awarded by the Navy to these firms?

The construction contractors acknowledged that as large business organizations they compete for the MACC type contracts and PPV projects. With the emphasis by the Navy on meeting Socio-economic goals for small, disadvantaged, women-owned, and minority businesses, contractors stated that their emphasis now has shifted from internal expertise to establishing partnerships for the long-term of financial, development, logistics, and property management.

- How does the PPV contractor's organization differ from the traditional construction contractor in their contract management?

The PPV contractor's organization differed from the traditional construction contractor in their contract management to the extent of terms of the individual business agreement negotiated with the Navy. Some of the contractors stated that their organization did not plan to change or has not changed in recent years despite the developments caused by PPV.

Other organizations said that would shape their future functional areas depending on how the current PPV projects develop. All would adapt their future organizational

structure to meet these needs as long as they thought they were considered potential players in the PPV market.

A common theme was that it was too early to tell the exact changes that PPV would bring to the organizations. Most said they would monitor current contracts and adjust.

- What recent communication and management tools have construction and PPV contractors adopted within the last three years in order to increase efficiencies in contract management?

The communication and management tools adopted by construction and PPV contractors within the last three years increased their efficiencies in their contract management. These tools consist mainly of Internet connectivity and information technology management assets. The contractors use these tools to conduct their everyday business with Government and industry.

Firms create project-specific web sites to facilitate the design and on-site construction process. They rely on e-mail to transmit architectural drawings. Most firms have their own web site and routinely check the Southwest Division web site. Firms use the internet for a variety of reasons: marketing, project scheduling, tracking job leads, recruiting staff, gathering product information, researching clients, and communicating with project team members.

Besides on-line communications, firms recognize the importance of remote technology devices to communicate because most of their work is remote. Tools such as wireless phones, pagers, and personal pda assistants [i.e. Palm Pilots, Blueberry] assist the project manager in their communications with the home office and designer. These

firms understand the importance of technology-driven tools taking hold in the industry to communicate with project partners, the Government, and housing residents.

Firms also mentioned the terms "virtual teaming," "redlining," "electronic white boarding," and project-specific Web sites. Some currently use these on other projects at MCB Camp Pendleton and expect their use to increase. Backed by the Government's long-term commitment for PPV, firms are more apt to justify their increased emphasis on information technology. In some cases, these solutions are either under development from within their firm, have been mentioned by the Government as future goals, or the contractors foresee their use in future projects.

Virtual teaming on a secure network would allow for project tracking and information sharing related to that job. DoD has implemented this approach on the HRSO website in which project members can request a password and exchange information on a secure website. Currently, neither Southwest Division, the ROICC office, MCB Camp Pendleton, nor the contractor possess this interconnectivity down to the team level to assist on project specific collaboration. Electronic white boarding permits team members to load a computer-aided drawing and do a collaborative work session regarding that drawing over the internet in real-time.

Another approach cited, redlining, allows contractors to send an electronic drawing or other document requiring proofing or comments to another team member, who then

redlines it and returns it to the sender. This greatly reduces review time.

- What are the cost benefit tradeoffs contractors consider when deciding to upgrade to current information technology architecture within DoD and industry?

The cost benefit tradeoffs contractors consider when deciding to upgrade to current information technology architecture consist mostly of analysis conducted by the project team. Within the contractor's organization, if someone can justify the expense of a particular item or service most contractors stated they were able to conduct a purchase within a very short time frame. The contractors waste little time fielding resources to field personnel to gain efficiencies over their competitors and improve their partnering relationships with other private sector firms.

This differs from DoD and Southwest Division, and the ROICC office, which does not have the pressure of dealing in a competitive environment. Normally, the Government must justify a guarantee of substantial time and cost savings prior to fielding a new tool.

For example, at Southwest Division, ROICC office, the Government recently purchased a small lot of PDA devices and conducted a drawing in which one individual per team on the ROICC side of business received the device for a test period. Since no Contract Specialists won the drawing, they had no access to this type of electronic organizer and remote communications tool unless they purchased the equipment out of their own personal budget.

Concerning Government requirements, all of the contractors stated that they are registered in the Central

Contractor Registration database and have had minimal problems or additional expenses adapting to the Government's use of Internet technology to the military construction process.

The contractors supported the continued use of paperless transactions because it reduces travel time and administration expenses on their side as well. Additionally, they already conduct business in this manner with their other divisions, partners, and subcontractors. So this is not a Government-unique requirement for them to comply with during the contract.

The contractors did not discuss the Government's use of a Standard Procurement System to automate the construction contracting process. Nor did they indicate the manner in which contractors may interface in the future if the Government fields a web-based system. Although the contractors knew the Contract Specialists use the system internally, the contractors did not know if, or when, they would join in the adoption of such a system.

However, DoD has recognized the NAVFAC for its web-based electronic solicitation interface system in which contractors can register and obtain current information concerning Navy and Marine Corps requirements. All of the surveyed contractors do use this system. Construction and

PPV development firms acquire and sustain contract management skills by taking on the management function of design-related projects. They regularly attend industry and Government-sponsored seminars and conferences. This allows them to understand the latest changes concerning issues such as prompt payment, invoicing procedures,



proposal requirements, and source selection evaluation factors.

Also, companies establish LLC's and various partnerships in which real-time information can be shared and issues directed to appropriate decision-making experts within the corporation so that timely decisions can be made. This minimizes the LLC's risks and contributes to the firm's ability to minimize losses of time and money. This increases the management companies' professional base and limits their exposure to liability. Also, partnerships are strengthened. This manner of sharing risk with others, instead of taking on the entire role of manager, brings a differing perspective to project management in today's environment.

By developing a knowledge-based team of experts, the Government also benefits. This potentially reduces costs and allows the contractor to assemble a team of developer, construction, and property management experts who maintain quality control beginning with pre-construction services throughout the life cycle of the project to the exit strategy.

#### **F. SUGGESTIONS FOR FUTURE RESEARCH**

- Conduct a similar survey of the PPV and MILCON contractors examined under this thesis in a couple years. The study could determine the extent of the success with the first round of PPV at MCB Camp Pendleton (and San Diego). Also, the study could examine the future of the traditional MILCON housing renovation, repair, and construction contractor to determine the extent of their role in the future. It would be of interest to determine the size and scope of future MILCON projects in comparison with PPV.

- Conduct a new survey including the contractor selected for the next round of PPV during Phase 2 at MCB Camp Pendleton. This would provide information on the new roles and responsibilities, and could include lessons learned from the first round of PPV projects. The study would also provide information on the extent of local and state firms' ability to compete in the new PPV environment.
- Examine the Government's organizational structure at Southwest Division to determine the extent PPV education and training workshops and seminars are conducted for Government professionals. The study could determine if the Government established a meaningful training system in place to prepare real estate, financial, contracting, and technical personnel for the changing mission of the new PPV requirements. The study could also compare and contrast the contractor's and Southwest Division's organization structure.
- Evaluate in three years the contract synopsized in the Commerce Business Daily on 01 November 2001. The announcement appeared under - Y; NEW CONSTRUCTION RENOVATION/REVITALIZATION ALTERATION AND REPAIR BY DESIGN-BUILD OR DESIGN-BID-/BUILD OF VARIOUS HOUSING SITES AT VARIOUS LOCATIONS CBD 01/NOV/01 - Y; NEW CONSTRUCTION RENOVATION/REVITALIZATION ALTERATION AND REPAIR BY DESIGN-BUILD OR DESIGN-BID-/BUILD OF VARIOUS HOUSING SITES AT VARIOUS LOCATIONS.

The contract anticipated that the majority of the work would consist of Design-Build projects within California. The projects might include, but are not limited to: New Housing, Wholehouse/Wholesite Revitalization, Repair by Replacement, Community Centers, Housing Offices and other incidental related work.

The contract used the NAICS Codes for single and multi-family homes of 23321/2. It would be interesting to determine the extent of each type that were built in the future and the percent targeted for the junior enlisted personnel.

The contract intends to support Design-Build Strategies. The contract requires a Lead Design

Firm (A-E) experienced in the coordination of multi-discipline Architectural/Engineering design efforts in all aspects of new and renovated Housing, Community Centers and Housing Offices. The future researcher could conduct a study on the growing importance on the professional A-E for construction management and the reduced role of the contractor who may or may not have professional qualifications.

This contract allows offerors to propose multiple design teams to satisfy a variety of project types projected to be awarded during the term of the contract. The Offeror(s) and the proposed Lead Design Firm(s) for the basic contract will be evaluated as a team. Lead Design Firm(s) (A-E), their subsidiaries and affiliates that are involved at the RFP or design stage of a particular project will not be allowed to propose or be used on a Task Order for that project.

- A researcher could conduct a separate study on the role of the minimum guarantee in the MILCON environment. For this contract, the estimated construction cost for the base year and all four options combined for all awards is \$250,000,000, yet the minimum guarantee is only \$50,000 for each contract awarded.

An interesting aspect of the study could entail the relationship between contractors who requested a solicitation yet did not propose; compared against those who submitted a proposal. The researcher could determine if non-incumbent contractors were effectively locked out of the market because of proposal costs.

The costs may outweigh the risk required for a new or incumbent contractor to maintain a commitment of resources to establish a team capable of handling task orders with a possible range from \$3,000,000 and above; yet only guaranteed a minimum of \$50,000.

It would also be of interest to study if this new solicitation generated any new contractors to propose. Also, if any PPV contractors targeted MILCON housing projects.

## APPENDIX

Questions 1-4 refer to Table 1.  
Questions 5-6 refer to Table 2.  
Questions 7-11 refer to Table 3.  
Questions 12-14 refer to Table 4.  
Questions 15-18 refer to Table 5.

1. During the last three years, has your organization undergone any changes in terms of changing its organizational structure, as a result in the Government's changes in methods of procurement?
2. During the last three years, has your organization undergone any changes in terms of establishing joint ventures [j/v], as a result in the Government's changes in methods of procurement?
3. During the last three years, has your organization undergone any changes in terms of establishing formal partnering agreements with the Navy, as a result in the Government's changes in methods of procurement?
4. During the last three years, has your organization undergone any changes in terms of participating in Limited Liability Corporations [LLCs], as a result in the Government's changes in methods of procurement?
5. Can Southwest Division, ROICC office, improve construction management?
6. Does PPV differ from traditional MILCON contracts in contract management practices?
7. Does the size or type of contract proposed by the Southwest Division for a military family housing project affect your organization's structure?
8. Has your firm adopted new communication and management tools within the last 3-years? Have they been successful?
9. Has the Government fairly evaluated and awarded Best Value Design Build military family housing construction projects using tradeoffs?
10. Does your firm acquire and sustain contract management skills in support of DoD in regards to military family housing contracts?
11. Has your firm identified any current trends in terms of DoD contract type preference within the last 3-years?

12. What marketplace factors are influencing the current military family housing construction supplier base and impacting the Government's political decision-making process concerning military family housing?
13. Do you think the Government will achieve its goal of eliminating substandard housing by the year 2010?
14. Does your firm have a PPV business planning section or business opportunities exploration group?
15. Do you think PPV lowers the life cycle costs to the Government for military family housing?
16. Do you think PPV delivers a cheaper and faster housing solution over the traditional MILCON approach?
17. Does the Government's oversight responsibilities decrease and risk transfer to the contractor and developer as a result of PPV?
18. Can the Government's actions maintain industry's interest in current and future PPV projects?
19. Any additional comments regarding military family housing construction practices [concerning Southwest Division, ROICC Camp Pendleton, and the construction supplier base]?

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